

## Celebrations

### 2012 Actuarial Gala Function and Awards (2012 AGFA)

Mumbai Actuarial students performance ranked best amongst other three Performances

Santosh Falorh

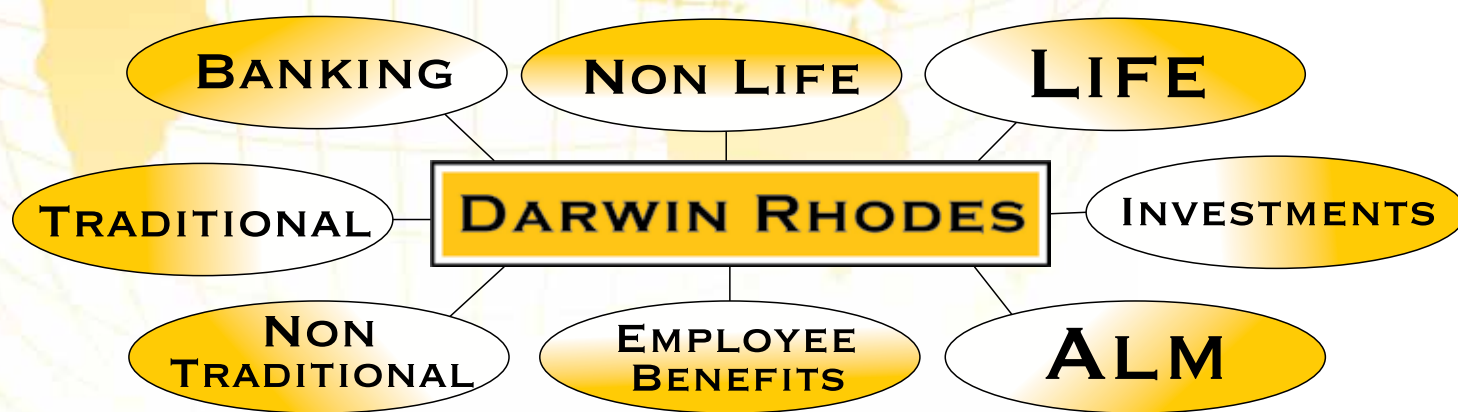
Pooja Shah



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## OBITUARY

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## FROM THE CHIEF EDITOR

**B**y the time you read this the annual hiatus of year end financial reporting will be winding down and many of us will be looking forward to regaining our social lives.

It never ceases to amaze me the short timescales within which actuaries, and our colleagues from the accounting and auditing professions, are expected to complete the year end financial reporting.

Members of the actuarial profession pride themselves on the judgement and insightful thought that they apply in the course of carrying out their work. Yet they are expected to work so fast at the year end that there is scarcely time to draw breath let alone think.

In order to complete the work in the required timeframe, it is necessary that all thought and application of judgement have been carried out in advance and tested at valuations performed earlier during the year. Once the year end actually arrives one has to trust that no unforeseen situation arrives to which one has not already applied one's mind.

Even before actuaries can actually start their year end calculations, they first need to check the accuracy and completeness of the data that has been provided to them. This would be necessary in any case, but is made doubly important by the fact that for several weeks over the year end the customer service staff have also been working very long hours in order to process the large amounts of new business that arrive at that time. Given the speed with

which they need to work and the late hours they need to keep, it would be surprising if their error rates did not increase.

For any business the profit or surplus is basically just the small difference between two very large numbers, the income and the expenditure. Any small error in one of these large numbers will inevitably lead to a large error in the reported profit.

In the businesses that we mostly work in there is the added complication of the change in actuarial reserves. Again the reserves are just the difference between two large numbers, but in this case it is not just the difference between current items, the reserves are the discounted difference between all future expenses and all future income. A small error in estimating either of these latter quantities will again lead to a large error in the surplus.

So I wonder where this need for speed comes from and why it is so important that it is necessary to risk significant errors being made in the production of the financial statements.

Other professions are not expected to perform under such time pressure. If a cardiac surgeon tells a patient that his open heart surgery will take 6 hours to perform, it is easy to imagine the reaction of the surgeon if the patient demanded the operation was completed in half the time. Perhaps more importantly, I cannot imagine any patient being so careless of their own wellbeing that they would insist on the surgeon performing the operation in half the time.

It is well known that performance and judgement deteriorate the longer the hours that an individual works. As a consequence, for commercial airlines there are strict regulations limiting the amount of time that a flight crew can spend continuously on duty. In contrast actuaries, accountants and auditors will routinely work late into the night over the year end in order to get the work completed on time.

It is true that these examples from other professions involve risks to human health and life. But is the need for shareholders to know about the financial health of their companies so urgent that they are willing to risk that reporting being inaccurate? I cannot imagine that the financial and corporate worlds would suffer significantly if we were given an extra week or two to complete our year end work. Perhaps as a profession that takes its reputation seriously we should insist on having that additional time.

**Nick Taket**

### CONGRATULATIONS !

#### 2012 AGFA WINNERS - MUMBAI ACTUARIAL STUDENT PERFORMERS' TEAM

Santosh Falorh • Pooja Shah • Sophia Fernandes • Deepa Ashar • Elvicia D'Souza

## The Life Products:

Life Insurance Products are bread and butter for the common masses in any society, more so in India where numbers below the poverty line are still large and the wealthy form a small percentage of the total. The middle class thus, should have wealth creation mechanism over life span, in such a manner that provides lump sum on early death with sufficient accumulation to have a respectful life after one has ceased to be economically productive. The problem is simple and straight, the solutions however come through highly involved principles of actuarial science. The product design and its architecture are the fulcrum around which the stability of the life industry revolves.

Life products design and regulatory approvals have been a matter of concern for some time, creating perception of uncertainty about stability and sound growth of the life insurance industry. In my view, things have been, for the last few years on an uncertain path, as far as the products are concerned, which may be because the designs approved lacked base of sound principles and client interest focus. With pulls and pressures of various stakeholders, the insurers wanting return on capital as soon as possible, the intermediaries grabbing maximum remuneration for distribution, only the policyholder was left unrepresented in the ring. Who represents the policyholder? Of course the regulator and within the regulatory structure the Member (Actuary) along with the Appointed Actuary.



Putting matters on the right track is always full of pebbles on the path and regulatory attempt to bring some discipline is no exception.

IRDA came out with a letter to Life Insurance Council on Product Design (IRDA/ACTL/NAV/55(6)/02/2012) dated 16th February, 2012 bringing out number of issues thus putting the matter in the lap of life insurers to respond. In the absence of insurance industry body in India and Life Insurance Council being the extended arm of the IRDA, one can legitimately be cynical about the response that the Regulator will get.

The IRDA, very considerably allowed us to give response too, which was sent based on feedback from the Advisory Group on Life Insurance and other stakeholders taken off-line. The response to IRDA is thus opinion of the President and surely others in the IAI leadership may have different views.

IRDA's intent in respect of the protection of the interest of the policyholders has to be appreciated. We have to keep in mind that the *raison-d'être* of insurance regulatory regime is protection of the interest of the policyholders, irrespective of the fact as to who the other stakeholders are: The Insurers (whether in the public or private sector), Intermediaries, Consultants or the Government. For the sound development and growth of life insurance industry, it is imperative to provide products that meet the needs of the mass of humanity that India consists of. However, such development cannot be at the cost of the first and basic objective i.e. protection of the interest of the policyholders. The growth of the life insurance industry objective falls in the lap of number of agencies, primarily the Government, the business houses if the opportunity of business makes sense to them and the civil society through organized societies cantered around principles of mutuality and solidarity, created for objectives other than taking insurance cover.

The Life Insurance is a mechanism to provide solutions so that enough financial resources are available to an individual when the same are needed while such an individual travels through the passages of life. Details apart, there is no substitute to life insurance and thus the life insurance products are bread & butter for a financially healthy and self-respectful society. The structural design of these products and steering these in such a manner that policyholders' financial requirements are met first, while returns to other stakeholders are generated too. There is thus a conflict of interest inherent in the system between the policyholder, who pays for buying the products and other stakeholders, who derive monetary compensation for services performed, through the passages of the life insurance products. The institutional mechanism to ensure this is through the system of Appointed Actuary, an individual appropriately qualified, professionally regulated and performing tasks within the realm of the Insurer, a watchdog for the policyholder, reporting to the Insurance regulator, the latter being given the responsibility of protecting the interest of the policyholders by the Law.

As against the above canvas, the product design and steering it in a manner that it meets the policyholder's needs first and allows cash flows to satisfy business requirement of the insurer (who provides the capital) and service providers, such as intermediaries and consultants is prime task of the Insurance Regulator through the regulatory regime of the Appointed Actuary.

The response to IRDA is reproduced in this issue and I would welcome comments from readers so as to facilitate a well informed and healthy debate on the subject.

#### What else?

While I write this column, a lot is happening around;

1. **Feedback survey on 2012 AGFA and 14th GCA** is on and given by the responses received so far, both the events do appear to have impressed the participants of the events. More on these events in the next issue.
2. **Second round of ACET** registration opened on 5th April, 2012 and numbers registered so far are very encouraging.
3. **The MMIC** unit has been activated at last and you will hear more about it in the near future.
4. **The Research Department** has kicked off with joining of Head – Research, Vinod Kumar and whole lot of activities are taking off.
5. **Member Services** through online facilitation has been a dream is being experienced now and we hope to roll out much more.

Join me in the march to progress,

Regards



Liyaquat Khan

## ANNOUNCEMENT FOR MEMBERS OF IAI


### The Actuary India Scheme of Awards for Best Article & Reportage for the Calendar year 2012 and thereafter till amended

**The objectives:** recognition of the efforts put in and encourages members to write for the Actuary India magazine either in the form of Articles and/or reportage for various IAI events.

**Process of selection:** Three member Selection Group will be appointed by the President in Dec. 2012 and every December thereafter to set parameters for selection and recommend best two Articles and best two Reportages in order of merit.

**The Awards and recognition:** Based on the Selection Group's recommendations, the following rules shall apply;

- a) The awards will be given by the Chief Editor during the AGFA held immediately after the end of the calendar year 2012. The awards will be in the form of **cash prize and recognition plaque**.
- b) The three member selection Group will send its recommendation by January each year based on editions published in a calendar year 2012 and each Calendar year thereafter.. Every member of the selection Committee will come out with his/her own list of best five articles/reportages. Thereafter, the Group will meet in the second week of January and come out with a commonly agreed upon best two. In the event there is no unanimity the Selection Group will decide on how to select the best two (e.g. going by majority view, draw of lots from the five best drawn by each or any other). This list, along with justifications, will be sent to the President well in time for him/her to announce.
- c) The Author/s of first best Article and Reportage will receive a prize of Rs. 10,000/- for the Article and the Reportage and the next best will receive Rs. 5,000/- accordingly. In case there are more than one Authors, the amount will be allocated equally, however the recognitions plaques will be given to each.
- d) In order to qualify each article/reportage should meet the following minimum criteria;
  - I. at least about 500 words.
  - II. should not be reproduced from articles elsewhere (while sending the article the author should give a declaration to this effect.
  - III. Should be written by a member of the IAI (in the case of joint authors, all should be members of the IAI) at the time the article is published.
  - IV. Reportage should be based on event organized by IAI only.
- e) The award winning authors along with the Selections Groups key points on selection will be published in the **March** issue of **the Actuary India** each year.



Liyaquat Khan



## SUBMISSION TO IRDA

By Liyaquat Khan

IRDA

SUBMISSION TO

### RESPONSE TO IRDA LETTER ON PRODUCT DESIGN (IRDA/ACTL/NAV/55(6)/02/2012) DATED 16TH FEBRUARY, 2012 TO LIFE INSURANCE COUNCIL

#### INTRODUCTION:

This submission provides comments from the undersigned based on the feedback from Advisory Group on Life Insurance of the Institute of Actuaries of India and other stakeholders in the subject matter taken off-line through personal discussions. This approach was adopted so as to get to the bottom of the issues to the extent possible and convey to IRDA. Therefore, this submission does not constitute views of the Council of the Institute.

Though the above letter from IRDA was addressed exclusively to the Life Insurance Council, on request the same was subsequently allowed to be commented upon by the undersigned.

We appreciate IRDA's intent in respect of the protection of the interest of the policyholders and whole heartedly support its efforts in that direction. We emphasize that the *raison-de-etre* of insurance regulatory regime is protection of the interest of the policyholders irrespective of the fact as to who other stakeholders are: The Insurers (whether in the public or private sector), Intermediaries, Consultants or the Government. The development on sound basis and growth of life insurance industry is imperative to provide products that meet the needs of the mass of humanity that India consists of. However, such development cannot be at the cost of the first and basic objective i.e. protection of the interest of the policyholders. The growth of the life insurance industry objective falls in the

lap of number of agencies, primarily the government, the business houses if the opportunity of business makes sense to them and the civil society through organized societies centered around principles of mutuality and solidarity, created for objectives other than taking insurance cover.

The Life Insurance is a mechanism to provide solutions so that enough financial resources are available to an individual when the same is needed while such an individual travels through the passages of life. Details apart, there is no substitute to life insurance and thus the life insurance products are bread & butter for a financially healthy and self-respectful society. The structural design of these products and steering these in a manner that policyholders' financial requirements are met first while returns to other stakeholders are generated. There is thus a conflict of interest inherent in the system between the policyholder, who pays for buying the products and other stakeholders, who derive monetary compensation for services performed, through the passages of the life insurance products. The institutional mechanism to ensure this is through the system of Appointed Actuary, an individual appropriately qualified, professionally regulated and performing tasks within the realm of the Insurer, a watchdog for the policyholder, reporting to the Insurance regulator the later being charged with the responsibility of protecting the interest of the policyholders by the Law.

As against the above canvass, the product design and steering it in a manner that it meets the policyholder needs first and allows cash flows to satisfy business requirement of the insurer (who provides the capital) and service providers such as intermediaries and consultants is prime task of the insurance Regulator thr' the regulatory regime of the Appointed Actuary.

#### PRINCIPLES OF PRODUCT DESIGN:

For all the above to be achieved, the product and processes should at the minimum meet the following;

- 1) Product suitability: The appropriate product is to be sold so as to meet the specific financial needs of the client. The intermediary should keep the interest of the policyholder in mind and sell those products which meet the needs of the customer. This leads to i) need for strong market conduct enforced on the intermediary and ii) intermediary remuneration neutral to product design/features (as products are expected to be designed to meet specific needs and intermediary should not be financially motivated to push one product as against another) and iii) strong regulatory/punitive regime on the Insurer so as to eliminate the possibility of "profiteering" and "money laundering".
- 2) Product Flexibility: The product should have the necessary flexibility and choice of features to meet the

client's current and changing future needs.

- 3) Product innovation: As the societies are always in a state of flux and evolution, the principles around which products are designed by the insurer and approved by the regulator should facilitate innovation to better match the client's changing needs.
- 4) Product Complexity: If structured around sound principles, the products may appear complex, however the same would be relevant. The combination of client needs that such products are intended to cover can not be complex. The Regulatory regime has to have mechanism to ensure that such complexity is not driven by Insurer aim to create smokescreen for the client. This is very important as insurance sale is always push sale and much that the policyholder believes is based trust in the intermediary and value brand of the insurer. By the time that the policyholder realizes inappropriate of the product "it is too late".
- 5) Product Transparency: A good quality product illustration at the point of sales and seeking consent of the customer has no substitute. The risks and benefits should be transparently illustrated to the customer and made part of the policy contract.
- 6) Sales Conduct: The intermediary remuneration should be designed in a manner that it is neutral to all products leading to only those product sales that are best fit to the customer needs.
- 7) Insurer profitability: The product design should aim to through up premiums that are appropriate making the products financially viable generating acceptable level of returns on capital, if the products are well managed.

### PRODUCTS – A PEEP IN TO THE PAST:

**Key Issues:** The IRDA letter in its opening para essentially brings out the following key issues;

- 1) Lately more complex products are being designed.
- 2) Features of several products are not in alignment with "best practices".

- 3) Frequently products filed for approval lack clarity.

The above has resulted in inefficiency of the product approval process.

### PRODUCTS – what is required for the future:

- 1) Conceptual clarity in Product Design.
- 2) Products designed on sound insurance principles.
- 3) Product architecture to aim at high standards of policyholder protection.

### THE SEVEN DRIVERS OF PRODUCT DESIGN BEHAVIORS:

The IRDA letter has brought out seven key issues for comments that essentially capture the current state of affairs in the life insurance industry. The route and manner through which these seven issues are addressed will define the stability and growth of the life insurance industry. Our response is restricted to the content of IRDA letter within these Seven Key Issues.

#### I Low insurance cover:

- a) A life insurance product (other than an annuity) by definition should carry adequate life cover and no more. Inadequate life cover (Sum Assured) would deprive the policyholder complete financial security where as an amount of Sum Assured in excess of the required would lead to moral hazard. Life insurance marketing concepts such as Human Life Value and Capital Needs Analysis provide tools to determine the appropriate Sum Assured and other measures of policyholder needs. All products should be designed around these measures within the framework the Principles of Product Designs and apparent lack of such rigors in the immediate past some years has resulted in to the situation that IRDA letter captures well. While stating this, it may be mentioned that there is need not only to set right the future path, its desirable to screen the products cleared in past with a view to have these dropped or modified with consequential re-look at adequacy of reserves.
- b) The current ULIP/VIP products already carry a minimum life cover stated in the form of a multiple of the premium. Term covers, individual or group, carry life cover that are

decided on principles of underwriting if absolute or as multiple of salary in Group insurance. For savings products, stating a minimum life cover could be challenge if measured in terms of pure risk cover, however it has been a practice to take Sum Assured as a indicator of adequacy of risk cover whether payable on death or maturity.

- c) The tax consideration as arising from Tax Laws or any other State policy instruments should not be a consideration in product designing. However, the Insurers should be free to design products that have element of tax efficiency provided such products confirm to Principles of Product Design. The product's non-compliance with the tax requirements should not be consideration for approval.
- d) We suggest that it would be for the IRDA to decide what constitutes a permissible sum assured, within the terms of the Insurance Act, 1938, and the IRDA Act, 1999, and for the tax authorities to decide the appropriate tax treatment, within the terms of the Income Tax Act.

As a practical measure, a broad thumb rule could be applied for the traditional policies to meet the minimum sum assured requirement, for example –

- For Regular Premium products, 50% of the total premium payable over the term. We suggest that adoption of the rule that is applicable to regular premium ULIPs could have adverse consequences for conventional business. In order to comply while retaining a reasonable bonus loading in the premium, companies may sell longer term policies than needed by the customer. This could result in early surrender. While a ULIP would protect the policyholder in this case, by virtue of limits on surrender penalties, much more limited protection would apply in a conventional participating product.
- For products with money back features, the premiums payable could be netted by the survival benefits payable over the term.

For single premiums, the minimum life cover could be fixed at 1.25 times the premium which would generally align with the sum assured payable at maturity. We note that this rule already applies to single premium ULIP products.

- e) In savings products, the Sum at Risk reduces over the term of the product as the underlying reserve increases. In this context, an artificial reduction of the sum assured in the 2<sup>nd</sup> year is not warranted as it would hardly ever be based on the client's requirement. However, greater policyholder interest is served by providing necessary flexibility in the level of future cover which would match the customer requirement of higher cover for an initial period of year's e.g. Indian expats working abroad and entrepreneurs. We suggest that such flexibility may be provided subject to meeting a prescribed minimum level of cover as discussed above.
- f) We note that term assurance business that is written in conjunction with the issue of a loan typically provides reducing levels of cover, in line with the expected amortization of the loan. This decline in cover is not arbitrary but rational and serves to reduce the cost of the cover. Approaching the end of the period of cover, the sum assured on death would approach zero but we see no need for application of a floor, which would itself be arbitrary.

## II Participating and Non-participating:

We agree that the demarcation between Par and Non-par should be clear. For a non-participating contract, there should be no discretion over the benefit payable i.e. the benefit amount should be stated or the basis for calculating the benefit amount should be clearly set out in the contract.

In current circumstances, it is worth considering what has prompted the plethora of non-par products in which the benefits depend on investment conditions;

1. If classified as a par product, a mature company (defined as over 10 years since first licensed) must

have a surplus in the Par fund before any distribution is made to policyholders.

2. With the sharp reduction in Unit Linked volumes, most companies have seen unit sales costs rise. This translates into expense overruns.
3. If new business volumes switch to Par policies, the expense overrun will be carried by the Par fund and result in insufficient surplus to support reasonable bonus rates.

In the light of these issues, it is logical that insurance companies should attempt to file products as non-par, with linkage to an index, as expense overruns are passed on to shareholders. Furthermore, most companies and many policyholders would want a non-par endowment because;

1. It is capital efficient since emerging surplus is fungible;
2. It is tax efficient since any augmentation of policyholder benefits is from gross returns, unlike for par policies where the bonus is paid from a net of tax surplus;
3. By defining the basis of such future augmentations, as well as the basis of surrender values, such products protect the policyholder from discretionary actions on the part of the company, such as reviews of bonus rates and surrender value scales.

The Authority's concern about uncertain end-benefits is legitimate, but where products are linked to G-Sec rates, and provide illustrations at appropriate interest rates, the client is given a reasonable sense of what he/she can expect (at 2 different illustration rates). The illustration rates can be set with reference to current market conditions so that the illustrations are meaningful. Furthermore, many clients can relate to G-Sec rates (and indices relating to these). The Appointed Actuary is required to sign-off the benefit illustration, which largely addresses this concern, but guidelines can be tightened further.

We note that unit linked contracts also provide benefits that:

1. Are not known until the date of claim;
2. Are linked to an (internal) index, the unit price.

However, the difficulties are met by

benefit illustrations and transparency of the unit price (it must be on a mark to market basis, its calculation is prescribed, the asset mix is disclosed, etc.)

We also note that in the mortgage market, variability of outcomes of a long-term product, dependent on various indices, has become the norm. The market has moved in recent years to largely variable rates, where these may be benchmarked to some index. Customers can understand such a structure so long as the disclosures are clear.

We are in complete agreement with the conclusion that individual non-participating products should adhere to principles of non-participating products, which can be summarized as "protection of the interest of the policyholders are defined in the contract or the basis of calculating the benefits is set out clearly in the contract; in either case no discretion is available to the company in arriving at the benefits". We also believe that there should be improved disclosure of the way in which product benefits are calculated.

In respect of traditional group business, we suggest that products where the interest rate is declared annually in advance and there is no discretion over the surrender value be treated as non-participating, for the following reasons:

1. While there may be discretion over the rate of interest to be declared at the start of each year, the policyholder can decide whether to continue the policy and thereby be subject to that discretion. We note that the typical policyholder in group business would be financially aware and also that the surrender value would be non-discretionary. Thus, if the policyholder were not content for any reason, he would be expected to leave and would do so on guaranteed terms. Thus, though the product is typically long term, we may view it as if it were a 1-year renewable product. From this perspective, at the start of each year, the benefits arising from the product would be fully guaranteed. Thus we may regard the policy as non-participating.
2. The traditional non-participating group market is already well established. It would be an unnecessary disruption for this

business to be re-categorized as participating.

### III Group Long Term Products

We understand that the letter is referring to term products, credit life products with reducing cover, group savings products, group ULIP products (all with term longer than 1 year) on the group platform. While IRDA appears comfortable with the credit life product structure, the others seem to cause some concerns.

While the concern around group savings products is not very apparent in the letter, our contention is that being on the group platform, such products would be more efficiently administered and hence would generally be more cost effective. As long as such products meet the regulatory requirements of the respective product types and are priced appropriately, we do not see any reason for concern. Our recommendation would be to approve such products based on the merits of each product, provided that the conformity to PRINCIPLES OF PRODUCT DESIGN is demonstrated.

Further, the long term 'Term Assurance' products have significant advantages as shown below and the one year renewable term assurance product would not always serve as an alternative –

- These products are guaranteed for the entire term; meaning that there is continuity of protection and no renewal is required
- Level regular premium offers continuity and certainty of the premium amount
- Group platform provides the ease of administration, cost efficiency in terms of premium collection as the administrative effort is significantly lower
- Large groups / compulsory groups minimize anti-selection, hence underwriting can be fairly liberal
- The alternative of the one year renewable term product is complicated by the process of yearly renewal of cover, and review of premium rates leading to uncertainty in the premium levels as the premiums can go up on review. Such a structure may be suitable for sponsored schemes but not where the member pays the premium.

### Response to the other issues raised under this point are;

#### **Premium rates similar to both individual and group members:**

The expected mortality is a key component of the premium. This would depend on the profile of the target group and the level of underwriting. Individual term products with high minimum sum assured targeted at the high end customer and stringently underwritten (preferred life term) could have a much lower premium than a group term product targeted at the social sector clients and with minimal underwriting. Similarly group term products offered to employees and sponsored by the employer (compulsory participation) would have very low premiums because of the absence of anti-selection and active-at-work employees even though the underwriting could be minimal.

#### **Intermediaries gain higher commission:**

More commission is allowed as per law. The justification would be that commission rate is commensurate with the sales effort and a regular premium product is tougher to sell and service from the intermediary's point of view.

It is worth noting that a general insurance company that effectively sells term insurance cover (cover for critical illness and accidental death) is allowed to pay 15% commission on each and every premium.

#### **Mostly offered to bank customers.....:**

This is a market conduct issue. Such practices as the deduction of premiums without specific consent could be curbed by building in safeguards and disclosure at the point of sale. The structure of the product does not in any way contribute to this malaise.

#### **Limited premium payment terms.....**

Our response is the same as under 'Intermediaries gain higher commission'. We suggest that IRDA may wish to regulate the commission under LPPT products so that the maximum commission levels may be between those for regular and single premium products OR may set limits to the premium payment periods to (say) more than 3 years etc.

#### **What happens if the agreement is terminated?**

We appreciate the comfort that the group master policyholder provides by

facilitating the premium collection and that remittance could stop on termination of the agreement. However, there are multiple payment modes available to the customer including ECS, standing instructions, direct debit etc. which can be organized by the insurance company. If a bank is the master policyholder, the process could be even easier.

It should be possible to extend a guaranteed insurability option to the member who has lost cover following the termination of a group policy. In such circumstances, this may be mandated.

### IV Limited Premium Payment Terms:

- Apart from being a tool to sell products that better suit the specific circumstances of customers (for example policyholders with irregular income or policyholders settling overseas after inception of a policy), there are also other important reasons why products with limited premium payment term (LPPT) options should continue to be allowed as part of life insurers' product baskets, as outlined below.
- The inherent risk of some product features increases with an increase in premium payment term, for example where profitability is extremely sensitive to future interest rate levels. In such an instance, LPPT is an effective risk management tool which reduces uncertainty and gives insurers the ability to provide benefits at lower cost to policyholders compared to where premiums are paid for the full policy term. In some cases where premiums are paid for the full policy term, product features cannot be made available at economically viable premium rates after allowing for the extent of the uncertainty.
- If level premiums are charged throughout the policy term on decreasing term insurance policies, the cost of death benefits will likely exceed premium payments at early policy durations. Furthermore, policyholders may be inclined to lapse policies at later durations when the level premiums are high compared to the reducing risk coverages at the time, and life insurers may be exposed to losses as a result. Since LPPT reduces the risk of later duration lapses, this

payment method may be considered appropriate for decreasing term insurance policies.

- d) The impact and timing of the Direct Tax Code are still very unclear. The continuing uncertainty in the tax environment makes it extremely difficult for policyholders to commit to policy contracts with premium obligations well into the future. LPPT policies allow customers to enjoy life insurance coverage whilst the tax environment is yet to become more certain.
- e) We suggest that concerns relating to acceleration of commission payments be addressed by reviewing the regulation of commission, rather than limiting the flexibility and choice of product features.
- f) We believe that changes in premium paying term could be allowed, so long as the policy alteration also allowed a review of the benefits.
- g) It is evident from the favourable persistency experience of LPPT policies to date compared to other policies, that LPPT policies are meeting real policyholder needs.

## VI Reinsurance:

The IRDA will agree that reinsurance is an important risk management tool for life insurers. For example, it would be inappropriate for life insurers, big or small, to hold a number of very large risks relative to the rest of their portfolio. Reinsurance is also an important risk management tool for the life insurance industry as a whole, as it provides the industry the ability to share and place risk globally with reputable reinsurers with high credit ratings. Reinsurers in turn, have the mechanism to share risk with more markets by retrocessions.

The development and growth of the Indian life insurance industry over the last number of years, especially in the areas of pure term coverages and benefits such as critical illness and disability, would not have been possible without significant support from the reinsurance market. Without this support, the protection market would have lacked growth momentum, premiums would have been expensive and many policyholders' needs would

have remained unmet since life insurance companies' capacity to accept the levels of risk sought would have been lesser.

We believe that reinsurers will remain a critical component in the growth and development of the Indian life insurance protection market. Imposing reinsurance constraints on life insurance companies will significantly reduce life insurers' ability to manage their existing risk appropriately. Life insurers would need to drastically reduce risk cover made available to customers, load premiums with significant margins or even exit certain lines of business, as accepting the level of risks would be irresponsible without appropriate reinsurance arrangements.

Parameter mis-estimation risk could arise in the pricing of new benefits such as critical illness and new distribution channels such as on-line. Quota share reinsurance is a simple way of mitigating this risk, while also getting reinsurers' expertise in product design, pricing and, if appropriate, in marketing.

The IRDA mentioned that it believes every product should have a specified maximum sum assured compared to the current practice of specifying "no limit". Arguments have been advanced against such a proposition. Depending on the reinsurer's capacity, with a "no limit" condition even very large risk coverages can be extended to policyholders which would not have been possible on a product if a lower maximum sum assured was specified at the time of product filing based on the life insurer's capacity. The "no limit" condition provides flexibility in meeting policyholder needs and does not increase the risk for the life insurer, when transferring risk to a reputable reinsurer. However, it is also appreciated that from regulatory perspective specified maximum Sum Assured may be desirable and so is the case of specified level of minimum retained Sum at Risk. This may be based on case to case basis factoring in to capitalisation of the Insurer, the objective being to eliminate, if there is, the possibility of "fronting". There being no system of reinsurance commission in the Indian market which is the primary tool of fronting mechanism, it has to be seen if the market conditions have forced evolution of proxy-fronting mechanism.

## VI Benefit Illustrations:

The main aim of benefit illustrations should drive the approach followed. We believe that the objectives of industry standards for benefit illustrations are:

- 1) To ensure that companies do not compete on the basis of projected investment performance in the market place.
- 2) To demonstrate that the benefits received are heavily dependent on the investment returns earned, and that a wide range of outcomes is possible.
- 3) To demonstrate the effect that the actual charging structure (or allocated expenses) will have on the resultant maturity benefits.
- 4) To try to ensure that different product types are compared on a similar basis.

If the company can amend its benefit illustration rate by removing an under-performing fund from a product, or can illustrate different ULIP products at different rates because the performance of the underlying funds has varied, business will tend to get directed into the products that have performed well in the recent past. So, for example, during a period of volatility, a highest NAV product may look very good over 2 years, and will have an attractive benefit illustration; but this is unlikely to be indicative of future performance. Similarly, during a period of falling interest rates, the mark-to-market performance of a bond fund would be very good. But at the end of this period, its prospective yields would be low. It would be misleading to project its future returns on the basis of its recent performance. In general, we submit, it would be dangerous to make a long term projection on the basis of the last two years' returns.

We suggest that industry standard illustration rates are reviewed periodically and set with reference to an external index, for example cash rate  $\pm$  spread.

Many companies use illustration rates for participating products that are consistent with the investment scenarios for Unit Linked products. This does not mean that they illustrate at 10% and 6%, but that they calculate bonus rates consistent with gross investment performance of 10% and 6% (taking into account tax and shareholder portion of surplus). The historical approach

proposed is dangerous because companies may be tempted to boost maturity benefits for the small number of maturing policies, in order to get a much better illustration basis for new business. Even in the absence of any such manipulation, there will be environments where it is accepted that bonus rates are expected to fall. To issue illustrations on the basis of recent bonus rates or maturity values would then be misleading. (We note that this problem exacerbated the endowment mis-selling scandal in the UK.) The same concerns apply to using the performance of paid-up values, which are also subject to manipulation (and are in any case not available when a company first starts offering participating policies). We really believe that this needs more thought, and suggest that it be referred to the Institute of Actuaries of India, who can revise the Guidance Note / Practice Standard on Benefit Illustrations.

It is not clear as to what is meant by "It should be considered (particularly for NAV products) whether the maximum loss which could be incurred be disclosed". Is this a reference to all unit linked products or to HNAV products? If the latter, it is invariably true that no loss can be incurred. However, to communicate the risk to the policyholder we suggest including a statement that the risk mainly depends on the choice of fund.

## VII Series/Tranche of Funds within a product:

The Regulator's concerns around the highest NAV guarantee product appear to be three fold: i) the issue of a large number of small tranches of funds, ii) the sub-optimal equity exposure and iii) customer miscommunication or non-disclosure.

1. The letter expresses concern over the proliferation funds where the funds may not attain a critical size. We do not see a problem around what is pointed out as being a barrier to effective consumer communication. There is apparently no communication issue as the customer is invested in one single fund right through to the fixed date of maturity.

We can see a problem in terms of administration of the large number of small funds. However, given that a

company may come with (say) two funds in a year, we may see 10 funds in 5 years' time which is not such a big problem given the level of automation and IT support that are available today. As a matter of caution however, the Regulator could stipulate and agree with the company a specific minimum fund size and if the company does not reach that size in the stipulated period, not allow that company to launch future tranches.

We believe that neither the number of such funds nor the size is an issue as far as customer communication is concerned nor would they specifically lead to lower gains.

We note that where guarantees are offered, tranches defined by the date at which the guarantee applies are typically necessary for effective risk management. This allows the bond portfolio in the fund to be held at an appropriate duration. In the absence of such tranches of a fund, all the bonds would be fungible among all its unit liabilities, since a unit linked fund would not allow hypothecation of specific bonds to specific guarantee terms. As a result, the risk exposure would increase significantly.

2. We distinguish between Return Guarantee Funds and Highest NAV funds, which are quite different in nature and which require quite different investment strategies.

Many of the Return Guaranteed Funds (RGF) are generally meant to be fully invested in debts and state so clearly to the customer.

Stating a minimum equity exposure under the highest NAV (CPPI) products would be difficult to achieve as invariably the statistical minimum would be zero from a risk management point of view. Further, the equity exposure would generally start off at the highest level and gradually reduce over the term of the product. Without conveying to the customer a specific minimum level of equity, a sense of this can be given by disclosing the critical aspects of the underlying dynamic asset allocation process.

A simple statement explaining that the equity backing ratio is expected

to decline over time and that the fund should not be considered equity only fund could be appropriate.

3. The disclosure to the customer should attempt to sensitize the customer to the key aspects of the product, and the nature of the guarantee. It should be made clear that the guarantee offered is neither a capital guarantee nor a guarantee of the capital market returns.

The disclosure to the customer in respect of a Highest NAV fund or product should also attempt to make him understand the risks inherent in the product;

- That the guarantee is available only at maturity
  - That depending on the future market conditions, there could be substantial investment in fixed interest securities and in an extremely depressed market this could be as much as 100%
  - That returns may be as a result, lower than the equity market returns
  - That there is a charge for the guarantee provided
1. A further point not raised in the context of the highest NAV guarantee product is the pro-cyclic nature of the fund i.e. when the market goes down, the dynamic asset allocation requires divestment of equity. The sales trigger would by and large be similar across companies having such products. The risk would be that there would be a large scale shift from equity to bond which would cause liquidity issues in the market and also move prices of both assets. While it is expected that the individual companies would incorporate this restricted liquidity of equity assets in their asset allocation models and risk management process, we suggest the Regulator may monitor the aggregate equity exposure of all such products so that the inherent systemic risk does not get out of hand.

We thank IRDA for the opportunity to comment.

Regards,

Liyaquat Khan





## INTRODUCTORY ADDRESS

By Desmond Kent Smith

### 14th Global Conference of Actuaries, 20th February, 2012 Mumbai

(Note: highlights are editorial)

**P**resident Khan, distinguished guests and fellow actuaries – and of course the many students present - it is a great honour to represent the International Actuarial Association (IAA) as its President at your 14<sup>th</sup> Global Conference of Actuaries in your wonderful city of Mumbai. It brings back fond memories of the period when I regularly visited your country when one of the reinsurer's active in India (RGA) was setting up its business here – I was then the CEO of RGA South Africa.

I have been asked to convey the greetings and best wishes for a successful and productive conference from the officers of the IAA and past Presidents of the IAA, many of whom attended previous conferences.

Following on from the theme for the 13<sup>th</sup> conference, “Emerging Risks ... Daring Solutions”, I believe the theme for this conference is particularly relevant and appropriate – “Meeting the Challenges of Change”. We undoubtedly live in a rapidly changing environment with all the uncertainty and challenges that change brings. But on the other hand, change also creates opportunities for those who can identify them. And as was the case last year when Cecil Bykerk, the then President of the IAA, said “... who is in a better position to address these risks through developing daring, creative and innovative solutions than actuaries ...?”. The same is true that “... who better than actuaries can understand the

change that is taking place and develop suitable responses to the challenges and opportunities that emerge from this change...?” And I am sure, having looked through the conference programme and the excellent speakers you have, that this conference will add to a shared understanding of the issues.

#### Global yet local

While I believe that interaction within the profession globally will lead to a better understanding of the issues facing the profession locally, and while many of these issues are similar, if not the same, you in India, as do we in South Africa, have circumstances and priorities which are peculiar to your local environment and which require the local profession to arrive at solutions which meet up to international requirements but which are relevant locally.

#### BRICS and Indian actuarial profession

And while I am on the subject of interaction with the profession globally, may I extend a word of invitation and encouragement to the Indian profession to continue with your active and pro-active role and involvement in the activities of the IAA. Currently there are 7 official IAI representatives in IAA committees, including your President. It is important that the voice of the so-called developing economies also be heard within the

global actuarial profession and I believe the BRICs countries have a significant role to play in this regard. Brazil, Russia, India, China and South Africa are all full member associations (FMA's) of the IAA. Brazil is not particularly active - perhaps because of a language barrier. Russia and China were recently admitted as an FMA's and will undoubtedly play a significant role in future. And that leaves India and South Africa. We have, in South Africa, taken a decision to participate very actively in IAA matters on the basis that it is better to get involved in determining your future than having it imposed on you. India in relative terms is positioned to play a far larger role in the international financial arena. It is vitally important that the voices of the powerhouses of the future be heard as clearly in the global debate as those of the established “first world”.

In this regard matters such as micro-insurance, where I am sure India can speak with great authority, and which happens to be a topic in your programme, are becoming more prominent in discussions in forums such as the IAA.

Getting now to the IAA and its business, The IAA is the body which represents the actuarial profession globally. It has 64 so-called full member associations, of which India is obviously one, the latest admissions being Bosnia and Herzegovina. In addition there are 26 Associate members the latest admission being Armenia, and a number of

Institutional and Observer members. The vision of the IAA is, "The actuarial profession is recognised worldwide as a major player in the decision-making process within the financial services industry, in the area of social protection and in the management of risk - contributing to the well-being of society as a whole." And the Mission, "To represent the actuarial profession and promote its role, reputation and recognition in the international domain" and "To promote professionalism, develop education standards and encourage research with the active involvement of its member Associations, in order to address changing needs."

### IAA Governance and Subsidiarity

The reference to "with the active involvement of its member Associations" is of particular importance. One of the cornerstones of the way the IAA goes about its business is the so-called principle of Subsidiarity which says that, "The IAA will restrict its activities to strategies and programmes which require international cooperation or direction, or can be handled more efficiently across national and regional boundaries. It will not become involved with actions at the level of the member Associations or regional groups of actuarial associations, except at the express invitation of such an association or group."

Now what does that say? Firstly, it is clear that in respect of India for example, the IAA is required to respect the autonomy of the IAI and not get involved in any actions in your country except at the express invitation of the IAI. Another example is equally relevant. There is an association of European actuarial associations (the Groupe Consultatif) which is at the moment engaged with the European Regulator on the issue of Solvency II and standards of actuarial practices for Europe. While the IAA is itself involved in the setting of global standards, it is required not to involve itself in matters European in this regard unless requested to do so by the Groupe.

Equally, while it is the business of the IAA to pay attention to education standards internationally, it is not the business of the IAA to design and manage education

programmes. Two of our member associations, the Society in the US and the Institute and Faculty in the UK, have such programmes which they make available internationally and it would be totally counter-productive for the IAA to try and re-invent the wheel and in the process go into competition with two of its largest member associations.

Touching very briefly on the activities in which the IAA and its structures are involved, it is important to note that these take place within our strategic framework. These activities largely take place in the committees, sub-committees, task forces and working groups that exist within the IAA structures. In addition there are seven sections to which individual members belong and which largely focus on promoting the role of the actuary in specific practice areas, on research in the practice areas and providing opportunities for individuals to participate in research and continuing professional development.

### IAA and BRAND of the Profession

The strategic framework is defined by five strategic objectives (SO's) with their subsidiary priorities/action plans. These objectives were confirmed by a survey undertaken during 2011 by the Strategic Planning Subcommittee. In addition there was a strong feeling amongst our members that the brand of the profession should receive greater and more focussed attention. This is being attended to at present. The five SO's are:

1. Identify, establish and maintain relationships with key supranational audiences and provide them with actuarial input to improve the soundness of decisions being made on important issues with a global impact. The Supranational Relationships Subcommittee is extremely active and in 2011 the focus was primarily on the development banks. Priorities for 2012 include the International Social Security Association (ISSA), the International Labour Organisation (ILO), the International Organisation of Securities Commission (IOSCO) and the International Monetary Fund (IMF). There is a very well established relationship with the International

Association of Insurance Supervisors (IAIS) and the chair of this organisation, Peter Braumuller, happens to be an actuary. In addition a number of memoranda of understanding have been signed and the IAA was invited to participate in a task force created by the G20 during 2011 - the Regulated Professions Task Force.

2. Facilitate the use and expansion of the scientific knowledge and skills of the actuarial profession, including beyond the traditional areas of actuarial practice, to help enhance the scope, availability and quality of actuarial services offered by individual members of its member associations. A number of working groups have been created focussing on areas such as mortality, micro-insurance, population issues, the environment and very recent, Islamic Finance. The IAA is also represented at many global and regional events annually and is particularly a regular participant in IAI's events.
3. Establish, maintain and promote common standards of actuarial education, common principles of professionalism and model standards of actuarial practice for use by member associations worldwide. I am going to limit my comments to the matter of standards of actuarial practice. Peter Braumuller, who I have referred to already, addressed the Council of the IAA in Vienna in October 2010 and said the following, "Having regard to the IAA's strategic objectives to promote model standards of actuarial practice, I encourage the IAA Council to step up to the challenge of producing global actuarial standards to complement the global supervisory and accounting standards and to improve the transparency, reliability and comparability of the global insurance sector's financial and regulatory reporting." I am sure that you will agree that when a Regulator uses words such as "encourage", one sits up and pays attention. Needless to say the IAA's reaction was no different! This is an area which had already been receiving a great deal of attention. We have an

interim subcommittee focussing on the development of International Standards of Actuarial Practice (ISAP's), as well as a Task Force on Permanent Structure discussing the various options for the optimal structure of a body tasked with creating standards and monitoring of compliance with such standards. And this is not a simple task. We have a diverse membership, from the US and UK (and other) countries with highly developed standards of practice to newly admitted members with very basic structures and standards.

4. Support development, organisation and promotion of the actuarial profession in areas of the world in which it is not present or is not fully developed. There is a huge amount of activity taking place with regards to this objective. Subcommittees which focus on specific areas of the world have been created and an example of their activities is the assistance being given to the Institute of Actuaries of Korea to upgrade to Full Membership status. Seminars are held in various countries including such diverse places as Croatia, Malaysia, Kenya and Colombia. The Actuaries without Borders Section has been involved in projects and discussions regarding activities in countries such as Kenya, Georgia, Mongolia, Tasmania,

Zambia, Romania, Albania, the Caribbean and Kazakhstan.

5. Provide a forum for discussion among actuaries and actuarial associations throughout the world. There are regular Congresses (Cape Town in 2010, 1600 delegates), Washington (2014), Section Colloquia (Hong Kong upcoming in May), and an increasing number of Section Webcasts which provide opportunities for actuaries to get together and discuss matters of mutual interest. And this 14<sup>th</sup> Global Conference of Actuaries under the joint auspices of the IAI and the IAA is a prime example of such an occasion. Every man a debtor unto his profession So, as you can see, the IAA is, at an international level, attempting to meet the many challenges of change that is sweeping across the globe. And while times are challenging, they are also exciting and stimulating. I believe we have been able to identify opportunities for the profession and position the profession as a useful, hopefully essential, contributor to the global financial debate, in the process making progress towards achieving our vision of being recognized as a major player in the decision-making processes and contributing to the well-being of society as a whole.

### Every man a debtor unto his profession

And on that note, let me conclude by saying thank you for the invitation to the premier event in your calendar. It is a great privilege to be here. My hope is that you who are attending this event will find it interesting, insightful and motivating to contribute to your profession, both locally and internationally. May I leave you with a message I received from one of England's greatest actuaries when I qualified in 1973 and received my certificate from Sir Frank Redington at Staple Inn in London. In his address he quoted Sir Francis Bacon who had said many years ago, "I hold every man a debtor unto his profession". I do not know in what context this was said, but I have interpreted it to mean that those of us who have had the opportunity and privilege to be associated with a great profession have an obligation to give back to the profession, each in their own way. All of us present here today are in the position of being involved in the actuarial profession and benefiting in many ways from this involvement. Ask yourself, how I repay this debt and make my contribution to the profession and society in general.

I am hugely honoured!

Thank you.



# MICRO HEALTH CAPACITY BUILDING WORKSHOP

by Rini Patel and Vishal Narang

**Organized by :** Advisory Group on Microinsurance and Microfinance

**Venue :** Hotel Sea Princess, Juhu, Mumbai

**Date :** 23-24 March, 2012

The Micro Health capacity building workshop was organized to cover all aspects of premium calculation in micro health insurance and some aspects of health insurance mathematics. Its purpose was to provide in-depth knowledge on pricing of micro health insurance products

Guillaume Moussa is a native of Benin, Africa but resides in Germany. Guillaume is a Fellow of German Actuarial Association (DAV) and represents the same in different committees of International Actuarial Association (IAA). He is currently working with the Rheinland group in the Risk Management Department.



Guillaume Moussa, Mayur Ankolekar

Every participant was asked to introduce themselves and mention about their expectation from this workshop. Most of them were working in the health insurance industry and were looking forward to improving their understanding of micro health insurance.

The agenda was as follows:

- **Definitions and General Principles.**

The first step was to define the key terms and principles to ensure that all the participants were on the same page.

- **Historical Overview.**

A brief history was shared on how insurance has evolved.

- **Micro Health Insurance.**

The main characteristics of a Micro Health Insurance are a cover with:

1. Small sums assured.
2. Simple terms and conditions.
3. Little appreciation of actuarial know-how.

A general misconception about social protection being same as micro insurance was cleared. Social Insurance, a sub-set of Social Protection characterises Government contribution toward premium, but in Microinsurance the policyholders themselves



Liyaquat Khan inaugurating the workshop

## About the Authors



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Rini Patel and Vishal Narang are Student Actuary in the final year of B.Sc. Actuarial Science.

contribute. Rashtriya Swasthya Bima Yojana (RSBY), launched in April 2008, provides health insurance for households below the poverty line is an example of social protection albeit the delivery of the benefits is through the commercial insurance sector.

As Micro Health Insurance is targeted at poor people usually below poverty line, there is a huge scope in India, as about 2/3<sup>rd</sup> of the population lives on income below ₹100 per day.

- **Premium Calculations.**

The first step is to collect data. Internal data is usually scarce. Hence one has to rely on external data. The premium rate of a micro health insurance product should be adequate, reasonable and competitive. Guillaume Moussa shared a copy of a German micro insurance contract of 1958, which clearly showed that there was little underwriting.

The pure risk premium is calculated on the basis of morbidity data and should be loaded for administrative costs, marketing costs, etc. An essential point highlighted was that medical expenses are rising and therefore should be factored cautiously.

An exercise was thrown open to groups of participants wherein everyone was asked to design a policy mentioning the premiums for Mutual Health Units. The strategy most of the groups used was to give only the basic facilities which the community needed and to minimize the cost as much as possible.



The second exercise was to calculate premiums given the basic details and to list factors which need to be taken into account. The main points brought up were interest rates, inflation, homogeneity and demography of the population.

Interestingly it was seen that Interest rate should not be taken into account as the policies are for a short duration i.e. 1 year and the interest are too low to have a significant impact on the premiums. Another reason why the interest rates and inflation should be ignored is that the premiums are received every quarter and claims are made throughout the year so they neutralise the impact.

The third exercise was to compare two policies: One for natives and the other for natives working overseas. The retention limit was lower for the natives but the premium rates were equal for both.

At the end of which the lesson learned was to keep the product as simple as possible and providing cover for events with high incidence rate, this would keep the policyholder from terminating the policy as he would receive benefits for all the basic medical needs. A policyholder who receives a claim, it was mentioned, displayed better health seeking and disease preventive behaviour.

#### ● **Actuarial Practice and Related Issues.**

Actuarial Practices were discussed into the following stages:

1. Data Analysis,
2. Claim Monitoring,
3. Product Design,
4. Premium Calculation, and
5. Financial Forecasting.

An active discussion took place on ranking the practices by importance. The next step was to identify the issues related to above mentioned practices. The major points highlighted were:

1. Lack of proper data,
2. Regulatory constraints on pricing,
3. High medical costs inflation, and
4. Lack of clarity of an actuary's work domain.

**Brainstorming sessions** were held to find solutions to the issues i.e. training people on data collection, introducing a system of co-payment, encouraging treatments in public hospitals, and training actuarial technicians. Creating awareness about the profession, the high costs involved in hiring of actuaries leads to them being substituted by accountants and others who are not qualified enough for the role.

Towards the end of the workshop a test was conducted on Micro Health Insurance. The overall performance was outstanding with most participants scoring B+ grades i.e. more than 75% marks. Guillaume Moussa graciously marked the exercise and appreciated the three joint toppers viz. Abhijit Pal (Munich Re), Saddam Hoosein (Edelweiss Tokio Life) and Shilpi Jain (Student).



#### **A Brief Profile of Guillaume Moussa**

The Course Director, Guillaume Moussa, holds a degree in Mathematics and Actuarial Science from the Ludwig-Maximilian-University in Munich, Germany. He is a fully qualified actuary and a member of the German Actuarial Association (DAV). Mr. Moussa is a member of the DAV International Committee and represents the DAV in different Committees of the International Actuarial Association (IAA). He is chairman of the department of actuarial science and financial mathematics of the Institut Supérieur de Management (ISM-Adonai) in Cotonou, Benin and president of the actuarial association Ecole Supérieure d'Actuariat (ESA) in Benin.



# INTERNAL RISK REPORTING FOR INSURANCE COMPANIES

by Abhishek Kumar

**D**o the Board, management and risk committees understand company's risk exposures? Are risk-taking activities in line with internal risk policy and risk management standards? Is capital planning integrated with business planning? Does senior management have adequate information on a regular basis to take strategic decisions confidently? And so on. These are some questions actuaries and other members of senior management team often struggle to answer when queried by various stakeholders such as the regulator, capital markets, credit rating agencies, external auditor and shareholders.

Finance and actuarial teams in insurance companies work extensively to generate ever more granular and increasing amounts of financial information for internal and external stakeholders; so where is the missing link? Analysis of internal risk reporting and its alignment with external reporting is therefore critical to identify the missing link.

This article considers some examples of regulatory developments in the UK illustrating the regulator's expectations on risk-reporting, although similar developments are expected or happening in other jurisdictions, increasing focus from external agencies and some key considerations for risk reporting.

## Regulatory Backdrop (UK)

1. **Dear CEO Letter<sup>1</sup>:** FSA released a proposed "Dear CEO Letter" in November 2010 highlighting its observations on senior ALM committees' practices based on in-depth reviews conducted for large and small banks, building societies, overseas banks operating in UK and some large investment firms. Key observations included:
  - **Composition and authority:** It was observed that most effective senior ALM committees appeared to be those that are chaired routinely by the CEO.

- **Forward-looking:** Reviews highlighted a focus on monitoring and commenting on the past rather than proactive management of future.
- **Degree of challenge:** The degree of challenge observed at the committees was hard to identify and FSA expects the minutes of the ALM meetings to give non-attendees insight into discussion and challenge which took place.

Although the above reviews were conducted for banks and investment firms, it is expected that insurance companies will equally qualify for such reviews in the UK, currently also being done under FSA ARROW framework, and overseas by their respective regulators, particularly in light of increasing harmonisation of regulations across the globe and financial services as evidenced by Solvency II and Basel III.

2. **Solvency II – Own Risk and Solvency assessment (ORSA):** Article 44 (Risk Management) and Article 45 (ORSA) of Level 1 directive and respective Level 2 implementing measures clearly set out the need for insurance companies to have *"reporting procedures processes which ensure that information on the material risks faced by the undertaking and the effectiveness of the risk management system are actively monitored and analysed and that appropriate modifications to the system are made where necessary"*.

Further, ORSA guidelines stress the need for communication of ORSA results to internal stakeholders. ORSA results should not only include views and assessment of the current risk profile but also an assessment of future changes to the risk profile by considering forward-looking projections in a wide range of scenarios, not just limited to 1:200. These guidelines

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also mention the need for a link between capital management and business management possible using the risk appetite framework.

Although Solvency II is applicable in EEA countries, consideration to these requirements should be given if other jurisdictions desire equivalence in future, in particular in key markets such as US.

## Increasing focus from external agencies

External stakeholders such as credit rating agencies and capital markets have increasingly been focussed on the Enterprise Risk Management (ERM) in assessing and rating a company's worth. For Standard & Poors (S&P), ERM is one the eight major rating factors<sup>2</sup> for rating insurance companies. In its ERM reviews, S&P actively look for evidence that the companies thoroughly understand their risk profile by way of a statement of risk tolerance and risk appetite communicated through the Board meeting minutes and risk reports presented to the Board regularly, presenting actual risk positions versus risk limits. Further S&P expect management to discuss and document in detail how business decisions are consistent with company's risk appetite.

## Key aspects of internal risk reporting

Against this regulatory backdrop and with the growing focus on risk management within insurance

1 Source: [http://www.fsa.gov.uk/pubs/guidance/ceo\\_10\\_06.pdf](http://www.fsa.gov.uk/pubs/guidance/ceo_10_06.pdf)

2 Source: [Standard & Poors](#)

companies, this article raises some key aspects for the audience to consider in their risk reporting work or to those who intend to introduce efficient risk reporting processes in their companies.

### **Do you have a clearly defined risk reporting framework?**

Risk reporting covers a wide variety of information reporting i.e. it could be regulatory reporting such as solvency ratios, reporting for shareholders such as IFRS & MCEV profits or for risk management such as comparison of exposure with risk limits. Further, it could cover metrics from just solvency ratios from capital management perspective to reporting of earnings and economic profits business management perspective.

It is therefore critical to define the characteristics of the risk reporting framework. Characteristics include:

- **Governance:** It is important to identify the relevant owners and stakeholders of risk-reporting information/reports to attach the importance to the reporting process. Consideration should be given to the business governance structure, structure of Executive and Risk committees and their Terms of Reference, any overlaps between the information requirements for these committees. Further, consideration should also be given to whether the reporting information is outcome based (e.g. capital impact) or risk-driver based (e.g. underlying lapse rates) as the sources of required information could be different. A strong control framework for reporting processes is also critical to ensure the quality of reporting information.
- **Scope:** This includes the decision on businesses in scope for reporting (e.g. only life business on the basis of materiality on IFRS profits, capital etc.), risks in scope (e.g. only market, longevity and expense risks for a pension fund) and time horizon (e.g. one year risk perspective for capital management, quarterly monitoring for liquidity risks etc.) over which risk reporting is done. Most companies intend to monitor risks over the business-planning

period, which generally ranges from 3-5 years.

- **Alignment with risk management framework:** Risk reporting is one of the pillars of risk management framework. In order for risk monitoring mechanism in the framework to work, companies need relevant metrics, which are in line with the risk policy, strategy and appetite. Risk reporting practices could range from just reporting the risk exposure to comparison of these exposures with risk appetite and risk limits approved by Board and reporting any breaches of these limits. The risk reporting framework defines the type of risk metrics to be covered in risk reports and answers the question – are the metrics for capital management or are the metrics for business management? For example, capital management metrics could be based on 1:200 scenarios for regulatory capital while 1:50 or 1:100 scenarios for business management (generally in line with the risk appetite framework).
- **Risk reports and frequency:** Risk reporting framework should define the type and frequency of risk reports to be produced – should the reports be just quantitative or qualitative as well? For example, risk exposure reports, a quantitative report, could be produced monthly while key risk report, generally a qualitative report by CROs, could be produced quarterly. The framework should also define the level of information, which needs to be reported for different audiences. For example, while Board may just be interested in Risk Dashboard (usually a 1-2 page summary of key risks with traffic lights), members of investment committees and risk committees may prefer full reports and detailed analysis. Risk reports should also be in line with the Terms of Reference for various committees.
- **Links to external reporting:** Lastly, the purpose of a risk reporting framework is to ensure an efficient reporting and hence, wherever possible, existing sources of

information from external reporting or vice versa should be leveraged. For example, internal risk reports could show the link to external statutory reports or market reports.

### **Is your risk reporting fit for purpose?**

Once the reporting framework has been defined, it is important that it is regularly reviewed to ensure that it is fit for purpose. Some key aspects for the audience to consider are:

- **Risk Taxonomy:** Is the definition of various categories of reported risks in line with the understanding of risks in the organisation and how the business is managed? For example, the investment team might be managing default risk within the credit risk rather than on a stand-alone basis but the reported risk exposure for credit risk in various risk-reports might exclude the default risk. This does not provide a 'like for like' comparison of exposure vs limits. An inconsistent taxonomy used between the risk reporting and business management results in the loss of relevance of risk reporting information for the front-end business functions.
- **Upside vs downside risks:** Most of us would agree that the main purpose of risk reporting is to control the downside risks. Companies, however, might be interested in tracking the upside opportunities and want to include internal information such as benchmarking of risk-adjusted returns and economic profits between products and businesses for capital allocation purposes and external information such as market ratios and competitor analyses.
- **Accuracy vs agility:** Companies should also consider the balance between accuracy of metrics and agility with which they can be reported. It is no point reporting 99.99% as compared to 97% accurate information if it takes a month to compile the former and the numbers lose their relevance. In taking a decision, companies should consider the sensitivity of overall results to the accuracy of the information.

- **Risk measures:** Risk measures can be outcome based or risk-drivers based. Outcome based measures would include measures such as impact on capital, MCEV & IFRS profits, return on equity while risk-drivers based measures will include measures such as underlying investment return, spread volatility, number of counterparties and asset exposure. Generally, risk reports will be a combination of both types of measures.
- **Forward looking view:** Risk reporting would not only include point in time reporting (e.g. capital at risk) and retrospective analysis (e.g. lapse rates trends or investment yields), it would also cover aspects such as “What-if scenarios” or reverse stress testing with any future management actions. The forward-looking view might include key emerging risks such as sovereign crisis, pandemic or climate changes.

**Do you have capabilities to produce reporting information on a regular basis?**

Developing a risk reporting framework can be time-consuming as well as cost intensive. Therefore, companies should evaluate, at an early stage, the future requirements in order to generate regular reporting information. An overriding principle should be to produce the information once and only once, so that risk of duplicating information and providing inconsistent information for different users is mitigated. Requirements, although not limited to, include:

- **Systems:** Generating risk reporting information often includes significant changes/enhancements to IT systems such as investment management systems, policy administration systems or business data storage tools. In particular,

companies with presence in different geographies strive to achieve a consistent set of risk reporting framework and this often involves building common data management hardware. Companies should therefore carefully consider involving stakeholders such as IT teams while building or enhancing the risk reporting framework.

- **Skills and resources:** Companies should consider whether they have sufficient skills and resources to analyse the data and produce the required risk reporting information and whether they need any investment in recruitment or training from an early stage. Companies should also consider whether new risk models need to be built in order to provide certain risk reporting metrics.

**How is the risk reporting information used in the business?**

In order for the risk reporting framework to work and achieve its desired benefits, there must be a two-way feedback system between risk monitoring and business management. These could include activities such as:

- Regular feedback mechanism from business functions to assess whether they understand the risk reporting information and whether they use this information. The feedback should also include if the risk – reports provide enough commentary how the risks could be managed or “next steps”.
- Integration of business planning and capital management

**Is the discussion in Executive committees on risk metrics appropriate and sufficient?**

Following questions should be considered when assessing the effectiveness of discussions in the committees:

- *Are the senior committee members well engaged to understand the underlying approach and assumptions to calculate the key metrics?* If no, this implies there is either a better way to display the information or assumptions and definitions can be clearer. There also may be a need for training for newer members.
- *Are the conclusions arrived in the Executive committees’ meeting same as those from the meetings with business functions* – If no, there is a risk that the perception of business lines and Executive committee differs.
- *Is the discussion mainly on retrospective compliance* – Management should discuss the planned future actions and not the compliance for each metrics. Monitoring of limits can be delegated to a sub-committee.
- *Are recommendations accepted without challenge* – Members should be given pros and cons of each recommendation and discussion should be documented.

**Summary**

In summary, in order to achieve most benefits from risk reporting, companies should have a clearly defined risk reporting framework with a fit-for-purpose reporting. In developing such framework, companies should consider the capability needs for skills and resources. Sufficient engagement with business functions is needed at early stage in order to build a risk reporting framework that adequately reflects the business risks and provides information to these functions on how to mitigate or manage these risks. Most importantly, the “Tone from the Top” is fundamental to success of this whole approach to risk reporting.



IDEAS MUST BE PUT TO THE TEST. THAT'S WHY WE MAKE THINGS, OTHERWISE THEY WOULD BE NO MORE THAN IDEAS. THERE IS OFTEN A HUGE DIFFERENCE BETWEEN AN IDEA AND ITS REALISATION. I'VE HAD WHAT I THOUGHT WERE GREAT IDEAS THAT JUST DIDN'T WORK.

**ANDY GOLDSWORTHY**

# LIFE INSURANCE COMPANY: STATUTORY VALUATION, 2012

by Dinesh Chandra Khansili

Carrying out valuation job in a Life Insurance Company is a big task and despite of all sort of precautions, there may be areas which may be prone to errors. The valuation job gets complex with each passing year. The advance preparation, awareness created within the Company, agreement with Appointed Actuary on various issues, stability in valuation team helps to reduce the errors and timely submission of Actuarial Report and Abstract to IRDA. The article has been written keeping in mind the Insurance Act, 1938, IRDA regulations/ guidelines, IAI Actuarial Practice standards and generally accepted actuarial principles. I have given hereunder the description of items where errors may occur or in certain cases the compliance may not at all be adhered to, e.g. section 14 of Insurance act, 1938, if advance preparation lacks.

## ❑ Item 1 - Section 14-Insurance Act, 1938

### What does it contain:

It requires maintenance of Register of Policies and register of claims since inception of the company.

### How to ensure Compliance:

Company would maintain the register of policies and at statutory valuation. All the policies which have been valued should reflect in the policy register. This is a validation check on valuation data. The exit data should tally with death claim, maturity and surrender register for the year.

### Complexity/ prone to error:

- ❖ Register of claim should relate to death claim only or include maturity and surrender claims, since inception or for the year.
- ❖ Not only base death claims be captured but the riders claims also.
- ❖ Decision whether group business claims need to be captured in claim register or it applies to individual business only.

## ❑ Item 2- Regulation 4 (a) of IRDA (Actuarial Report and Abstract) Regulations, 2000

### What does it contain:

Certificate from Principal Officer for completeness of policy records to Appointed Actuary for investigation

### How to ensure Compliance:

Each and every policy record where there is liability exists need to be furnished to Appointed Actuary

### Complexity/ prone to error:

- ❖ The policy record where there may exist liability is present in policy administration system but same may not be extracted and given in Actuarial Extract.
- ❖ IT in liaison with Actuarial Department may help developing checks on extracted data.
- ❖ Generally more attention is given to individual business data but Company to ensure the riders' completeness and group business completeness which may be a challenge.
- ❖ This exercise relating to completeness of group data and riders needs understanding and advance preparation.

## ❑ Item 3- Regulation 4 (b) of IRDA (Actuarial Report and Abstract) Regulations, 2000

### What does it contain:

Certificate from Appointed Actuary

### How to ensure Compliance:

Appointed Actuary furnishes a certificate to IRDA that each and every policy record where there is liability and has been received with Principal Officer Certificate has been included in conducting the valuation of liabilities for the purpose of investigation and valued.

### Complexity/ prone to error:

- ❖ The policy record may be present but all policy record having liability may not be valued or valued more than once. The following may be reasons;
- ❖ All benefits may not be captured in actuarial software specifically for individual business. Hence to ensure timely review of all products' set up in actuarial software;
- ❖ Lack of understanding of policy data,
- ❖ Lack of understanding of status and sub status in valuation data. -For unit linked business post ULIP guidelines starting from 01-Jul-2006 and several guidelines thereafter especially the treatment of discontinued policies in first three

## About the Author



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years and after three years, various options on maturity has made the job more complex

- ❖ Generally more attention is given to individual business be it product set up in actuarial software, capturing in valuation data, its completeness, consistency etc. But in the process the riders' completeness and group business completeness may not be given adequate attention or time left is short resulting into compromises.

## ❑ Item 4- Regulation 2 (6)- schedule II-A under IRDA (Assets, Liabilities and Solvency Margin of Insurers) Regulations, 2000

### What does it contain:

Use of Gross premium method of valuation

### How to ensure Compliance:

Policy cash flows as stated in Regulation 3 schedule II-A under IRDA (Assets, Liabilities and Solvency Margin of Insurers) Regulations, 2000 have been ensured to be captured.

### Complexity/ prone to error:

- ❖ In case some products declares bonus in advance on exit of policy due to death, maturity or surrender during a period, generally companies make assumptions for regular bonus and terminal bonus which flow into actuarial software. The terminal bonus may be reserved using a formula or through specific assumption but terminal bonus

which has been declared in advance, to check whether additional provisioning is required for advance declared terminal bonus.

#### ❑ **Item 5- Regulation 5 (Assets, Liabilities and Solvency Margin of Insurers) Regulations, 2000**

##### **What does it contain:**

Valuation Parameters

##### **How to ensure Compliance:**

The Appointed Actuaries ensure compliance with the act, regulations and professional guidelines

##### **Complexity/ prone to error:**

- ❖ To ensure how assumptions have been set, the information do flow to valuation team,
- ❖ Best estimate, MAD and valuation assumptions correctly placed in right variables in parameter file, e.g. unit growth rate for calculating charges and discount rate to be used in calculation of non unit reserve are put in variables at best estimate rates, discount rate for calculating cash flows in non unit reserve (sterling reserve) or other rate.
- ❖ Assumptions have been changed e.g. claim related expenses have been aggregated with renewal expenses, still the claim related expenses are hard coded in the system and lead to higher reserves or vice versa and lead to lower reserves,
- ❖ Assumption may be captured at grouping of products. Is it ensured that impact of valuation assumption changes captured at each product level set up in policy administration system. If not, then for product new to sale or where volume of business is low may be clubbed with some other group because of lack of experience, the impact of changes may be very high when seen at each product level. It may not come to the notice immediately if not seen at product level and becomes difficult to justify at later stages.

#### ❑ **Item 6- Regulation 9 of IRDA (Actuarial Report and Abstract ) Regulation 2000**

##### **What does it contain:**

The forms under sub- regulation (2) of Regulation 4 shall be classified as per description- classification, category, division, sub class and group

##### **How to ensure Compliance:**

The individual and group products are to be broken into 144 forms.

##### **Complexity/ prone to error:**

- ❖ The product categorization may be done by team as per their understanding of study material,
- ❖ To ensure whether products have been categorized as per IRDA (Registration of Indian Insurance Companies) Regulations, 2000. This regulation describes general annuity business, health insurance business, linked business, non linked business, pension business,
- ❖ Some time complexity arises as file and use may describe the product under one category but it has been filed under another category. E.g. A product features may look like pension business but exemption under income tax rules categorizes it as life business.

#### ❑ **Item 7- Schedule I Regulation 2(Assets, Liabilities and Solvency Margin of Insurers) Regulations, 2000**

##### **What does it contain:**

Valuation of Assets

##### **How to ensure Compliance:**

The assets described under regulations to be placed with value zero for solvency purpose

##### **Complexity/ prone to error:**

- ❖ The decision would be required for agents' balances and outstanding premium to what extent that are not realizable,
- ❖ Whether premium contain element of service tax and that to be recognized or not,
- ❖ Service tax asset may flow in financials, what need to be treatment for solvency

#### ❑ **Item 8- IRDA (Distribution of surplus) Regulations, 2002, section 49 of Insurance Act 1938, IRDA circular and other guidelines, generally accepted actuarial principles**

##### **What does it contain:**

Surplus distribution amongst various generations of with profit policyholders and shareholders

##### **How to ensure Compliance:**

Appointed Actuaries generally comply the various provisions of act, regulations, communications and adhering to sound actuarial principles

##### **Complexity/ prone to error:**

- ❖ PRE and different generations of with profit policyholders is always a contentious issue and each Appointed Actuary deals with his/her own way,
- ❖ however there are technical issues which need to be ensured by the team,
- ❖ For example updation of asset share file in actuarial software,
- ❖ Whether initial expenses and overheads have been allocated and to what extent in asset share file,
- ❖ How actual mortality experience and investment returns earned in business flow into asset share file

#### ❑ **Item 9- CIRCULAR NO: IRDA/ACTL/CIR/GEN/045 /03/2011 March 7, 2011**

##### **What does it contain:**

NOTE FOR THE USE OF APPOINTED ACTUARIES FOR THE PREPARATION OF "ACTUARIAL REPORT AND ABSTRACT" FOR THE YEAR ENDED March 31, 2011

##### **How to ensure Compliance:**

Appointed Actuaries generally comply the various provisions of the circular. Till date there is no circular issued for the year ending 31-Mar-2012. Hence the provisions of this circular shall apply for year ending 31-Mar-2012.

##### **Complexity/ prone to error:**

- ❖ Item 6 of circular states -In respect of determination of mathematical reserves for each policy, under (a) Non-unit accounts in linked business and (b) Riders, Appointed Actuaries' are strongly advised to use "Unearned Premium Method", if the same is resulting in a higher mathematical reserve to be held vis-a-vis using "Gross Premium Method". To ensure it for non unit reserve may be a challenge,
- ❖ Item 7 of circular- Electronic submission. AA should also ensure to send the digitally signed report to IRDA. This may not be ensured unless until advance preparation with IT vendor undertaken,

## ❑ Item 10- Various provisions stating reserve to be adequate

### What does it contain:

Reserve should be adequate means Companies need to ensure to minimize the Actuarial risk i.e. not meeting liability as and when it is due. Simultaneously to avoid over reserving leading to higher capital requirement from the shareholder or lesser transfer of surplus to shareholders

### How to ensure Compliance:

Appointed Actuaries ensure it. However from capital/ transfer to shareholder point of view understanding of recent IRDA guidelines by the valuation team may be of worth.

### Complexity/ prone to error:

- ❖ Knowledge of valuation team regarding item 5 of CIRCULAR NO: IRDA/ACTL/CIR/GEN/045 /03/2011 March 7, 2011 which states that all riders (such as Accident, Critical Illness, Permanent Disability): The Factor applicable for the mathematical reserve is the same as that for its main product, and the factor for sum at risk is the one used for health insurance business (which is 0%), would lead to lower RSM. – Since Accidental sum at risk may be high and its inclusion in sum at risk before and after re-insurance in form KT-1 would lead to higher RSM.

❖ Item 5(3) states investment/ capital guarantee is available under any fund offered under a linked product then RSM factors for “with guarantees” should be made applicable for those funds only. Non adherence to guidelines may result into higher RSM.

❖ In health products there may be a case that policies resulted into claim may be valued for full benefits while such benefits should be valued for remaining benefits eligibility. E.g. Hospital Cash benefit. The system enhancement may also be seen with the materiality.

❖ There may be cases of double reserving, e.g. Finance is making provision in books of accounts and Actuarial Department is also keeping reserve,

❖ At one point of time reserve may be calculated outside actuarial software but at date of valuation, the same has been modeled.

❖ In some cases provision not being made e.g. annuity cases where payment for past period not made for example survival certificate not submitted. Hence agreement with finance for keeping provisions for non contingent liabilities.

## ❑ Item 11- Issues pointed out by IRDA in previous year valuation

### What does it contain:

There may be some points which IRDA

would have raised through written communication or as result of IRDA Audit

### How to ensure Compliance:

To reflect in current year valuation report

### Complexity/ prone to error:

- ❖ Justification of changes in assumptions
- ❖ Commitment given in certain cases but time pressure led to same old practice(s).

## ❑ Item 12- APS-7

### What does it contain:

Practice standard for setting up of MAD

### How to ensure Compliance:

Generally Appointed Actuaries comply with provisions

### Complexity/ prone to error:

To ensure for interest rate MAD-Immediate rise or fall, from the current best estimate assumption, of 10% of the current gross redemption yield on 10- year gilts for the next five years. Thereafter, a rise or fall of a further 10% of current yields, whichever is more adverse for the office. Decision to make flat assumption or different assumption for first five years and thereafter incorporating the guidelines.

## Quotable Quotes

This is the beginning of a new day.  
God has given me this day to  
use as I will.


I can waste it or use it for good.  
What I do today is important,  
because

I am exchanging a day of  
my life for it.

When tomorrow comes,  
this day will be gone forever,  
leaving in its place something  
that I have traded for it.

I want it to be gain, not loss;  
good not evil; success not failure;  
in order that I shall not regret  
the price I paid for it.

*Author Unknown;  
available at <http://www.lifeoptimizer.org/2007/03/08/66-best-quotes-on-time-management/>*



**Many Happy Returns of the day**  
the Actuary India wishes many more years of healthy life to the following fellow members whose Birthday fall in **April 2012**

|                            |
|----------------------------|
| <b>A . Balasubramanian</b> |
| <b>I. SAMBASIVA RAO</b>    |
| <b>M. U. UPADHYAYA</b>     |

(Birthday greetings to fellow members who have attained 60 years of age)

The life insurance industry continues to face challenges in procuring new business. According to the data released by the Insurance Regulatory and Development Authority (IRDA), at Rs549.6 billion, the weighted new business premium collected by the Indian life insurance industry in the first 11 months of FY2011-12 (April 2011 to February 2012) registered a decline of 4 per cent when compared to the same period last year. Had it not been for the 6 per cent growth achieved by group insurance weighted new business premium, the overall situation for the life insurance industry would have been even grimmer. On an unweighted new premium basis, the industry recorded a contraction of 13%.

The negative growth rate across the industry can be attributed primarily to the spate of regulatory changes, especially the unit-linked guidelines issued in 2010. Linked pensions business was the biggest casualty of these guidelines and, to a large extent, was responsible for the decline in individual new business premium sales this year.

Amid weak sales of the previously popular linked life products, life insurers are launching alternative products in several other categories. A number of traditional as well as linked products aimed at securing children's education and future have been launched recently. Meanwhile, more companies have, or are planning to initiate, online sales of insurance policies, reflecting the

continuing popularity of the internet as a cost effective distribution channel.

With acquiring new business proving to be difficult and challenging, life insurers have increased their focus on retaining their existing customer base, which is reflected in recurring reports that renewal premiums of life insurance companies are on the rise. The silver lining has been that the renewed focus of insurers on controlling expenses, enhancing efficiencies in channel output and operations of the company, and focusing on persistency has contributed to 12 insurers declaring profit in the last fiscal year.

Despite measures taken by insurers to limit the extent of the slump in the industry, the regulator foresees a contraction in premiums of around 14 per cent in FY2011-12. Interestingly, in spite of this fall in new business sales and at a time when the life insurance industry is facing a declining growth trend, life insurers have reportedly infused fresh capital of Rs19.8 billion in the first three quarters of FY2011-12 which, as per the Life Insurance Council, indicates the long term growth outlook of domestic and foreign promoters.

Some shareholding shifts can be expected in the life insurance industry in coming months. It has been reported that Max New York Life might undergo a change in ownership as New York Life plans to exit the joint venture as part of its strategy to withdraw from Asia to focus on home businesses. Shriram

## About the Author



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Capital plans to buy-back its 26 per cent stake in Shriram Life from South Africa's Sanlam to facilitate Sanlam's direct investment in Shriram Capital. Additionally, the LIC of India has received parliamentary approval for raising its minimum paid-up capital to Rs1 billion, up from the existing level of Rs50 million.

On the regulatory front, the earlier draft guidelines on Asset liability Management (ALM) and Stress Testing, aimed at ensuring solvency of insurers and consistency in reporting of ALM, have now been finalised and will be effective from 1 April 2012. In an effort to improve the insurance sales process, the IRDA has issued draft guidelines on need-based sale of insurance products by agents and brokers through a Prospect Product Matrix. There are also press reports indicating that the IRDA may soon allow selected insurance repositories to start operations, facilitating e-issuance of insurance policies.



## DRAFT VISION, MISSION AND VALUES STATEMENTS of IAI

### VISION:

IAI to be a globally well recognized professional organization developing enduring thought leadership in managing uncertainty of future financial outcomes.

### Mission:

1. To educate/train risk professionals
2. To enhance and maintain high professional standards
3. To shape Public Policy and Awareness
4. To engage with other professional/regulatory/government bodies
5. To promote/build IAI as a respected brand of risk management globally
6. To promote research to advance actuarial science/application

### VALUES

1. Integrity
2. Respect for other's views
3. Accountability
4. Continuing Learning/Research Oriented
5. Transparency
6. Be Responsive/Sensitive



## FIREWALLS NEEDED BETWEEN BANKS AND INSURANCE FIRMS: SURVEY

IANIS; March 15, 2012

**T**he Economic Survey tabled in parliament Thursday voiced concern about the growing linkages between the banking and insurance sectors and said firewalls should be built between the two to prevent any financial contagion from one to the other in time of stress.

Many Indian banks have floated life and non-life insurance companies. Some are also buying into insurance companies which are part of financial conglomerates.

"Any financial stability issue regarding banks in the conglomerate may have an amplifying effect on the insurer. Efforts therefore have to be made towards building firewalls to prevent contagion from one sector to another, especially in times of stress," said the survey.

The finance ministry in a recent letter to banks that get capital support from the government has also cautioned the lenders against putting money in non-core business. The ministry said public sector banks should not to invest their core capital in any joint ventures, funds, subsidiaries which is not a core banking activity without prior approval from the government of India.

"The Indian insurance sector is well capitalised but significantly exposed to the banking system. Inter-linkages between the insurance and banking sectors are a matter of concern, with

many insurance companies being part of financial conglomerates," said the survey.

"Any financial stability issue regarding banks in the conglomerate may have an amplifying effect on the insurer." Internationally, the insurance and pension segments, in view of their typically long-term- long only investment style, are believed to contribute to financial stability. The ability to raise capital and adequate reinsurance capacity are expected to be important determinants for the insurance sector's continued stability, the survey said.

Referring to the pension sector, the survey stressed on sector reforms as it will "not only facilitate the flow of long-term savings for development but also help establish a credible and sustainable social security system in the country.

"Lower levels of financial literacy, particularly among workers in unorganized sector, non-availability of even moderate surplus, and lukewarm response so far from most of the state/ UT (union territory) governments to a co-contributory Swavalamban Scheme are the major challenges to universal inclusion of poorer sections of Indian society into the pension network," the survey said.

According to the survey, Indian life insurers underwrote new business

of Rs.1,26,381 crore during financial year 2010-11 as against Rs. 1,09,894 crore during the year 2009-10, recording a growth of 15 percent. "Of the new business premium underwritten, LIC (Life Insurance Corporation of India) accounted for Rs. 87012.35 crore (68.9 percent market share) and private insurers accounted for Rs. 39,368.65 crore (31.1 percent market share). The market share of these insurers were 65.1 percent and 34.9 percent respectively in the corresponding period of 2009-10."

Expressing satisfaction at the growth of non-life insurance sector, the survey said the industry underwrote a premium of Rs.42,576 crore during 2010-11 up from Rs.34,620 crore in 2009-10.

"The growth was satisfactory, particularly in view of the across the board cuts in the tariff rates."

Last fiscal the private insurers underwrote premium of Rs. 17,424.6 crore as against Rs.13,977 crore in 2009-10.

On the other hand the government owned insurers underwrote a premium of Rs.25,151.8 crore in 2010-11 as against Rs.20,643.5 crore in 2009-10, logging a growth of 21.8 percent as against 14.5 percent in 2009-10

**Source:** <http://www.deccanherald.com/content/234641/firewalls-need-ed-banks-insurance->

# THE ROLE OF THE IAIS IN THE FUTURE OF GLOBAL INSURANCE REGULATION DISCUSSED AT GENEVA ASSOCIATION SEMINAR

IAIS Press release, 22 March 2012

## Enhanced coordination among supervisors and standard setting bodies stressed; challenging work on systemic risk progressing

**Basel** - Peter Braumüller, Chair of the Executive Committee of the International Association of Insurance Supervisors (IAIS), today highlighted the critical role of the IAIS within the emerging global regulatory framework and discussed IAIS work on systemic risk at the 28<sup>th</sup> PROGRES International Seminar hosted by the Geneva Association in Geneva, Switzerland. The seminar brings together the world's leading insurance supervisors, academics, and executives to discuss strategic issues facing the insurance sector.

"Each of the standard setting bodies plays a vital role in setting, implementing, and assessing international standards," said Mr. Braumüller. "However, as the insurance marketplace grows even more globally interconnected, we must respond to the increasing need for

supervisors to coordinate their actions and to allocate resources in a manner that best suits the ultimate goal of policyholder protection."

In regard to financial stability, Mr. Braumüller discussed the IAIS' role in the development of an assessment methodology to identify any global systemically important insurers (G-SIIs) and potential policy measures applicable to G-SIIs. "At the request of the G20 Leaders and the Financial Stability Board (FSB), the IAIS has been diligently and carefully developing the G-SII assessment methodology and policy measures," said Mr. Braumüller. "The global insurer data collection required for this project – the first ever on such a scale – has presented unique challenges, and we are grateful for the continued support of our Members and the participating insurers."

The IAIS currently expects the next phases of the G-SII project to include

a two-month public consultation on the proposed assessment methodology scheduled from June at the earliest, followed by a second data call and a two-month public consultation on the potential G-SII policy measures.

Mr. Braumüller also discussed the IAIS' central role in standard setting and implementation, stressing the IAIS' commitment to promote effective and globally consistent supervision of the insurance industry. Mr. Braumüller described the IAIS' robust self-assessment and peer review program, and the IAIS' renewed focus on emerging markets as demonstrated through the recent formation of the Financial Inclusion Subcommittee.

**Source:** [http://www.iaisweb.org/temp/22\\_March\\_2012\\_the\\_role\\_of\\_the\\_IAIS\\_in\\_the\\_future\\_of\\_global\\_insurance\\_regulation\\_discussed\\_at\\_Geneva\\_Association\\_seminar.pdf](http://www.iaisweb.org/temp/22_March_2012_the_role_of_the_IAIS_in_the_future_of_global_insurance_regulation_discussed_at_Geneva_Association_seminar.pdf)



## 25% DO NOT THINK LIFE INSURANCE IS IMPORTANT: IRDA STUDY

The Economic Times; Feb 15, 2012

One out of every four people do not think that [life insurance](#) is important, reveals an [IRDA](#) sponsored study, which also made a case for effective marketing to increase penetration.

The study which was conducted by Delhi-based think-tank [NCAER](#) at the behest of insurance regulator IRDA, suggested that private sector and the government should work together in [Public-Private Partnership](#) (PPP) mode to enhance awareness about the benefits of insurance specially in the age group of 20-30 years.

"(There is a) low propensity for life insurance whereby one-fourth of the households did not consider life insurance as important," the study found.

It said that people, specially in rural areas, are not able to clearly comprehend the extent of coverage being offered under particular insurance plan which results in low penetration.

"...the insurance companies or the regulatory authority need to step up efforts to improve the awareness levels across the country," the study noted.

It also suggested different insurance packages for rural poor and urban populace and also highlighted the importance of micro insurance.

"Public policy should address insurance awareness needs of the people...", the study said, adding that a mass media awareness campaign would help reach out to the untapped market.

"It is essential that awareness creation

interventions be undertaken targeting the 20-30 year age group...", it said.

As per estimates, insurance penetration in India dropped to 5.1 per cent in 2010-11 fiscal, from 5.2 per cent in 2009-10.

While life insurance penetration fell to 4.4 per cent during the year, from 4.6 per cent, general insurance sector saw an increase in penetration from 0.6 per cent in 2009 to 0.7 per cent in 2010.

**Source:** [http://articles.economic-times.indiatimes.com/2012-02-15/news/31063104\\_1\\_insurance-penetration-life-insurance-irda](http://articles.economic-times.indiatimes.com/2012-02-15/news/31063104_1_insurance-penetration-life-insurance-irda)



## OBITUARY

**Asoke Kumar Dutta - 83**  
fellow member of the Institute  
expired on 4th February 2012  
in Kolkata.



## Background

Situated at the south west corner of the Indian Ocean, the island of Mauritius is well known today for its beautiful beaches, lagoons and palm trees and a destination for tourists. It is some 7 hours flight from India and 4 to 5 hours flight from East Africa

Three hundred years ago Mauritius was a totally uninhabited island, covered with wild vegetation and forests. Today it stands out as a economic success story in Africa, with population of 1.3 million, consisting mainly of immigrants from India, Africa, Europe, China. The country became independent from British rule in 1968 and became a Republic in 1992.

## Demographic outline

The demographic characteristics of the country are (i) a life expectancy of 72.9 at birth (ii) a population growth rate of 0.5%. The female population is slightly higher (50.7%) than the male population (49.3%). There is no Mauritius specific mortality rate table.

Actuaries generally use the PA (90) tables with some adjustments for mortality improvement, whilst some use the PMA 92 / PFA 92 tables for pensioner mortality. Life Assured's mortality is usually based on the UK or South African mortality tables adjusted to reflect local experience.

On the basis of mauritian statistics, the life expectancy at age 60 stands at 15.5 for males and 19.9 for females. 71.5% are aged between 15 and 64, whilst the elderly aged after 65 represent 7.4% of the population.

There is no Actuarial Society yet in Mauritius and there are four actuarial registered firms.

## Economic outline

The Mauritian economy evolved since its independence in 1968, from a purely agricultural economy to a more diversified economy consisting of the cane industry, manufacturing industry, tourism, financial services.

The main economic parameters for the year 2011 are: an economic growth of

4.1% (source: Central Statistics Office, Mauritius), estimated income per capita of USD 8,520 (source: International Monetary Fund), inflation rate of 6.5% (source: Central Statistics Office, Mauritius) and savings rate of 4.5% (source: State bank of Mauritius)

The Banking sector is supervised by the Bank of Mauritius whilst the Non Banking sector for Insurance, Pensions and the Offshore sector is regulated by the Financial Services Commission. The latter has put in place significant number of regulatory structures to regulate the market.

The lack of index linked bonds and long term bond market creates significant difficulties for the investment of long term funds and the development of investment assumption for valuations, and matching of assets and liabilities.

## Insurance sector

The Insurance sector is regulated by the Financial Services Commission, through the Insurance Act 2005 ( proclaimed in 2007). Life Assurance products are dominated by conventional with profits policies though there is a clear trend for linked policies which is emerging due to the volatility of investment returns.

**Pensions Sector :** The pensions sector is quite well developed with several pillars aiming at different population groups

|   |  |   |
|---|--|---|
| 1 | Basic Old Age Pensions   | Non contributory, No means test, for all citizens as from age 60.   |
| 2 | Mandatory National Pension Scheme for private companies. Also open to the self employed.                 | Contributory 3% employee/ 6% employer. Target of 1/3 of career average salary after 40 years.   |
| 3 | Public Sector Schemes for Government employees, and Parastatal organisations                             | Defined Benefit Scheme, contributory scheme. Target 2/3 of salary after 38.3 years. Employee contribution 6%. Scheme for Government employees are unfunded, while schemes for parastatal bodies are funded. |
| 4 | Occupational Schemes for private companies to top up the National Pension Scheme, Personal Pension Plans | Subject to Revenue Authority approval   |

## About the Author



Vijay.Balgobin@sicom.intnet.mu

Vijay is working as Senior Manager (Actuarial & Pensions) at the State Insurance Company of Mauritius

There are 19 long term and 15 short term insurance companies registered.

Since 2011, composite insurance companies had to segregate their activities into short term and long term insurance companies.

Insurance Companies in Mauritius are required to have independent actuaries to sign off solvency certificates and insurance reserves. Most of them seek the services of overseas consultancy firms to carry out actuarial duties required under the Act.

Traditional investments for insurance funds are the Government Bonds, Local quoted equity, Mortgage loans, Overseas investments and property. Life Assurance companies are allowed

to invest a maximum of 50% of the reserves overseas and many have taken this route in the venture for higher returns.

The Insurance Sector's contribution to the Gross Domestic Product for the Year 2010 was 2.9%

The major change in the pension scene is the pension reform which was triggered by the government as from July 2008 further to actuarial studies made in respect of the ageing population.

The compulsory retirement age was increased from 60 to 65, whilst at the

same time the public sector schemes became contributory, where employees were required to contribute at the rate of 6% of salaries.

The increase in retirement age has been however phased over to 2018.

Public sector pensions and the National Pensions Fund are regulated by the various acts under which they operate. Private schemes are basically governed by the individual rules of the pension funds, there is as yet no central regulation for private occupational pension. Mauritius has five pension administrators/managers.

Another development in the last few years is the coming into place of the Competition Commission, whose main objective is to investigate anti-competitive behaviour by businesses in Mauritius

Since its creation in 2007, the latter have carried out several investigations linked with the insurance sector, namely

- (i) Competition in car insurance
- (ii) Bundling of insurance products and credit in the banking sector
- (iii) Private Medical Insurance Schemes



## THE ACTUARY INDIA – EDITORIAL POLICY

(ver. 2.00/23<sup>rd</sup> Jan 2011)

### Version history;

Ver. 1.00/31 01 2004

Ver. 2.00/23<sup>rd</sup> Jan. 2011

- A: “the Actuary India” published monthly as a magazine since October, 2002, aims to be a forum for members of the Institute of Actuaries of India (the Institute) for;
- a. disseminating information,
  - b. communicating developments affecting the Institute members in particular and the actuarial profession in general,
  - c. articulating issues of contemporary concern to the members of the profession.
  - d. cementing and developing relationships across membership by promoting discussion and dialogue on professional issues.
  - e. Discussing and debating issues particularly of public interest, which could be served by the actuarial profession,
  - f. student members of the profession to share their views on matters of professional interest by way of articles and write-ups.
- B: The Institute recognizes the fact that;
- there is a growing emphasis on the globalization of the actuarial profession;
  - there is an imminent need to position the profession in a business context which transcends the traditional and specific actuarial applications.
  - The Institute members increasingly will work across the globe and in global context.
- C: Given this background the Institute strongly encourages contributions from the following groups of professionals:
- Members of other international actuarial associations across the globe
  - Regulators and government officials
  - Professionals from allied professions such as banking and other financial services
  - Academia
  - Professionals from other disciplines whose views are of interest to the actuarial profession
  - Business leaders in financial services.
- D: The magazine also seeks to keep members updated on the activities of the Institute including events on the various practice areas and the various professional development programmes on the anvil.
- E: The Institute while encouraging stakeholders as in section C to contribute to the Magazine, it makes it clear that responsibility for authenticity of the contents or opinions expressed in any material published in the Magazine is solely of its author and the Institute, any of its editors, the staff working on it or “the Actuary India” is in no way holds responsibility there for. In respect of the advertisements, the advertisers are solely responsible for contents of such advertisements and implications of the same.
- F: Finally and most importantly the Institute strongly believes that the magazine must play its part in motivating students to grow fast as actuaries of tomorrow to be capable of serving the financial services within ever demanding customer expectations.



## Your current job profile

I am currently working with Aon Hewitt in pension consulting. I first joined Hewitt during the summer of 2008 for an internship and as a result, was offered a permanent job which I started at the beginning of September 2009. I am based in London and have been working for over 2 years. I am involved in two teams, PSO (Public Sector Outsourcing) and PAS (Pensions Actuarial Services). As a part of PSO team, we advise private sector clients in relation to the pension's issues that arise due to transfer of employees as a result of outsourcing. As a part of PAS team, we advise the trustees and companies regarding pension schemes, benefit design and other retirement issues. My day to day role involves supporting the consultant on preparing reports and providing advices to the clients. In my role I also carry out calculations and modelling. I am also working towards my actuarial exams and am enrolled with the Institute of Actuaries, UK. I am three exams (CA3, ST5 and SA4) away from qualifying as a FIA. I hope to qualify within a year, fingers crossed!

## What is the level of awareness about the actuarial profession in Nepal and how do you think you can bring about any change?

In fact, having risked the loss of my family home due to financial constraints, I am interested on a very personal level in evaluating the likelihood of future events and minimizing any negative impacts. Coming from Nepal, where political and geographical factors make the economy very unpredictable, I also believe that this field would enable me to do something for Nepal by providing prudent advice on economic and financial management.

Talking about my long-term goals, I would like to do something in Nepal. Currently, I don't have a profound knowledge of the local market and there is no proper actuarial practise in Nepal. Hopefully, with my experiences and support from Institute of Actuaries of India, we can do something for Nepal. It would be a privilege for me if I can do something for the home country. It's quite daring but I think the challenge will be worth it. I am keeping my avenues open for any opportunities which will help me get involved in Nepal. I hope to use my strong analytical skills, inquisitive mathematical mind, business knowledge and understanding of human behaviour to design and implement programs that manage risk effectively.

## The institution where you studied

I graduated from Southampton University in 2009 with a BSc in Mathematics and Actuarial Science. I was awarded Golden Jubilee Scholarship by the School of Maths. It was such a privilege to get the award as it is only awarded to two international students. I excelled at University of Southampton

and was the top student of my year, which was very gratifying.

## What prompted you to take up Actuarial Science as career?

Before joining university, I took a gap year starting in 2005 and went to India, where I volunteered with Future Hope charity for street children and also did a placement with Watson Wyatt, Kolkata. Working in Kolkata was such a joy! The city was vibrant, people were warm and the food was great. Even though I missed home, I made some good friends and am still in touch with them. Before working at Watson Wyatt, I didn't know anything about actuarial world and was quite in a dilemma whether to pursue my career as an actuary. I enjoyed the work and decided to do Actuarial Science at University. This gradually paved my way into the actuarial profession.

While staying in Kolkata, I also learnt Bengali and some Hindi. Somewhere along my 8 month stint in India, I also learnt to like Bollywood films and songs!

## Tell us about yourself?

Talking of my childhood, I spent most of my childhood in Nepal where I was born and studied till GCSE O level equivalent. I was academically bright since my childhood. I was awarded scholarship to do 2 years International Baccalaureate Diploma at Hastings College, UK by the Pestalozzi International Village Trust. It was challenging to be away from family and home country but at the same time this gave me an opportunity to be independent and responsible and to introspect myself.

## What are your hobbies and craziest thing you have done?

The craziest thing I have done in my life and am proud of is my crazy record of 36 hours non-stop sleeping, which I hope to break one day! Sadly working life isn't as easy as being a student, so to find the time to beat the record is another challenge! When I am not sleeping, I like playing badminton and table tennis, visiting my family in Nepal, spending time with friends. I am also interested in philosophy.



## COPYING CASE IN SUBJECT CT1 FINANCIAL MATHEMATICS IN NOVEMBER 2010 EXAMINATION DIET Exam Centre - Delhi

This matter is being published in the Actuary India, magazine of the Institute of Actuaries of India, in accordance with the decision of the Executive Committee of the Actuarial Society of India (the predecessor body to the Institute of Actuaries of India (IAI)) in its meeting held on 4th March 2003 applicable to all such cases and keeping in view IAI's (previously ASI) membership requirements of the International Actuarial Association.

### **The members accused:**

Mr. Kshitij Agarwala (M ID: 9992), and Ms. Yutika Agarwal (M ID: 18857) – student members who appeared from Delhi exam centre in November, 2010.

### **The Case:**

It was brought to notice of the Examinations Department by one of the CT1 markers that most of the answers for these two candidates were identical with similar mistakes, corrections and answering pattern. As per the procedure, IAI administration had referred the answer scripts to second marker and review marker for their comments. All the markers and review examiner were of the view that there had been clear case of copying. On the said information, the results of these candidates were withheld pending further enquiry.

### **The Enquiry**

The matter was further enquired by IAI

administration by asking a report from Delhi centre in-charge. He mentioned that all the instruction/guidelines given in the Exam Conduct Standards were followed and were read to the students. The candidates were seated in ascending order of their roll no.'s arranged in advance and pasted on desks and proper distance was maintained. One invigilator per room was present throughout the Examination and centre in charge, Dy. Center-in-charge had also visited in all the rooms one after the other.

The case was placed in the Advisory Group - Examination meeting held on 20th February 2011 for discussion and recommendations. The members deliberated the matter in detail and found evident from the candidates statement that cheating had taken place and it was only about who copied from whom.

### **Personal Hearing of Case by Examination Chairperson**

An opportunity was provided to students for a personal hearing. As authorized by the President, Mr. Varun Gupta, Chairperson, Examination Advisory Group met the candidates involved in copying at IRDA office, Delhi on 13th April 2011. One candidate was not present in person but a telephonic discussion was conducted with the candidate on the same day. The candidates reiterated their earlier stand of accusing the other candidate for copying. Hence, it was clear that copying did happen.

### **Council Meeting**

The Council in its meeting held on 10th September 2011 considered the allegations against the two candidates and perused the response sent by the two candidates via emails dated 09.2.2011 and decided an appropriate penalty for such misconduct and unethical behavior.

### **Conclusion by the Council:**

The complaint of copying against two candidates was established.

### **Penalty:**

Both the students were suspended from IAI membership for a period of three years effective 15.11.2010, the date of the examination and communicated vide letter dt. 17th March, 2012.



## COPYING CASE IN SUBJECT CT1 FINANCIAL MATHEMATICS IN NOVEMBER 2010 EXAMINATION DIET Exam Centre - Kolkata

This matter is being published in the Actuary India, magazine of the Institute of Actuaries of India in accordance with the decision of the Executive Committee of the Actuarial Society of India (the predecessor body to the Institute of Actuaries of India (IAI)) in its meeting held on 4th March 2003 applicable to all such cases and keeping in view IAI's (previously ASI) membership requirements of the International Actuarial Association.

### **The member/s accused:**

Mr. Saket Saraogi (M ID: 18887), and Mr. Sarvesh Agarwal (19460) - student members who appeared from Kolkata exam centre in November, 2010.

### **The Case:**

While evaluating CT1 answer scripts for November 2010 exam diet, it was brought to the notice of Examinations Department by one of the CT1 markers

that most of the answers for these two candidates were suspiciously identical with similar mistakes. As per the procedure, IAI administration had referred the answer scripts to second marker and review marker for their comments. All the markers and review examiner were of the view that there was a possible case of copying as some answers were identical with similar mistakes and corrections. On the said information, the re-

sults of these candidates were withheld pending further enquiry.

### **The Enquiry**

The matter was further enquired by IAI administration by asking a report from Kolkata centre in-charge. He pointed out that the examinations were conducted into two rooms and these candidates were seated in the second room. All the candidates were sitting in ascending or-

der of their roll no.'s and the invigilators had not noticed any instance of copying. However, he also stated that in the room where the alleged copying took place, two candidates were accommodated in each table and a cardboard partition was arranged in the middle of it. He had visited the room twice but during his first visit to the room the cardboards were not in place and were put at his behest. He has also indicated lack of seriousness on the part of invigilator stating that the distance between two students was about 4 ft. who were seated in the same table.

The case was placed in the Advisory Group - Examination meeting held on 20<sup>th</sup> February 2011 for discussion and recommendation/s. The members deliberated the matter in detail and decided to take independent opinion (report)

from Mr. Pravir Chandra, *member Advisory Group - Examination* whether copying had indeed taken place or not. The report received from him was positive.

#### **Personal Hearing of Case by Examination Chairperson**

An opportunity was provided to students for a personal hearing. As authorized by the President, Mr. Varun Gupta, Chairperson, Examination Advisory Group met the candidates involved in copying at IRDA office, Delhi on 13<sup>th</sup> April 2011. The candidates were queried individually. They reiterated their earlier stated position sent by email. Mr. Varun Gupta couldn't find any incriminating evidence against them from that discussion although he had enough circumstantial evidence as per the reports by examiners and from the independent report.

#### **Council Meeting**

The Council in its meeting held on 10th September 2011 considered the allegations against the two candidates and perused the response sent by the two candidates via emails dated 10.2.2011 and decided an appropriate penalty for such misconduct and unethical behavior.

#### **Conclusion by the Council:**

The complaint of copying against two candidates was established.

#### **Penalty:**

Both the students were suspended from IAI membership for a period of three years effective 15.11.2010, the date of the examination and communicated vide letter dt., 17<sup>th</sup> March 2012.



## WELCOME



Vinod Kumar

We are happy to introduce Vinod Kumar who has joined as Head – Research. He joins after 22 years of experience, is an AIAI and has to his credit M.Sc. & B.Ed in Mathematics. His hobbies include Playing Table Tennis, Chess, Yoga, Cooking, Driving, Travelling, Teaching, and Reading.

We welcome Vinod Kumar to the family of Institute of Actuaries of India. Vinod can be reached at vinodkumar@actuariesindia.org, ph: 022 67843319

Management of Institute

## WELCOME



Gauri Totla

We are happy to introduce Gauri Totla who has joined on 22nd March 2012 as Manager-Examination. She joins after 21 months of experience and has to her credit a graduation degree in the field of Commerce along with GNIIT Certification in Software Engineering from NIIT. Her hobbies include internet surfing, travelling, listening to music and playing badminton.

We welcome Gauri Totla to the family of Institute of Actuaries of India. Gauri can be reached at email: gauri@actuariesindia.org, Tel: 022 - 06784 3324

Management of Institute

## FAREWELL



Vibhor Agarwal

Just a short note to say goodbye. It is my last day after a wonderful 3 years with Institute of Actuaries of India. I would like to sincerely thank each of you for every experience shared, friendship made, opportunity offered and good times I had during this time.

I have thoroughly enjoyed every aspect of being part of the examination group and I wish you all the very best in the future. Thank you all

**Vibhor Agarwal**

## NOTICE FOR SUBSCRIPTION FEES FOR THE FINANCIAL YEAR 2012-13

**Note:** It may please be noted that now subscription can only be paid **ONLINE** for all active members (i.e. members who had paid subscription for year 2011-12).

**A) Due date:** 1<sup>st</sup> April 2012.

**B) The subscription rates:** with effect from 1<sup>st</sup> April 2012:

| Class of Membership  | Fees in Indian Rupees (INRs)                                 |
|--|--|
| Fellows and Affiliates   | 2,000  |
| Associates   | 1,000  |
| Students   | 500  |
| For Fellows, Affiliates and Associates above age 60 as at 1 <sup>st</sup> April, 2012, and not gainfully occupied. | 500  |
| Life membership (optional) who are more than 60 years as at 1 <sup>st</sup> April, 2012                            | Ten times the normal annual subscription as mentioned above. |
| Members more than 75 years of age as at 1 <sup>st</sup> April, 2012  | NO annual subscription                                       |

**C) Failure to make payment:** The payment should be made online on or before 30<sup>th</sup> June 2012 failing which membership will lapse resulting in to removal of name from the register of members.

**D) The Procedure for online payment:**

- Login to IAI website ([www.actuariesindia.org](http://www.actuariesindia.org)) with your login id and password. If you are login for the first time, you can login by providing your membership number ( preceded by IAI-) as login id and your date of birth in DDMMYYYY format as password. For example, if your membership number is 289 and date of birth is 6<sup>th</sup> May, 1980, then your login id will be 289 and password will be 06051980. If any one of you do not remember membership id then please contact Ms. Prajkata Bhosle at [actsoc@actuariesindia.org](mailto:actsoc@actuariesindia.org) (Please refer to our email communication of 15<sup>th</sup> February and 30<sup>th</sup> March 2012).
- If you are log in for the first time, it will ask you to change your password, update your details and will prompt for subscription payment. If you are log in for the second or subsequent time, it will prompt you for payment of subscription and show you details of subscription fees payable.
- You can opt to make your payment via Debit Card, Credit Card or Internet Banking.
- Once the payment is successful, you will get an subscription receipt on your registered email ID and your subscription due date will be updated. You will be able to view the updated due date on the web in 24 hours' time.
- In case the payment has failed for some reason, please contact accounts team at [ravi@actuariesindia.org](mailto:ravi@actuariesindia.org) for resolving the problem.
- In case the transaction fails after the amount is debited to the card/bank account, the amount will be refunded to the card or bank account normally in 8-10 working days.

**E) Reinstatement of Membership :** Reinstatement of membership can currently be done offline only. Reinstatement can be requested in accordance with the following terms and conditions.

**i) Members whose subscription is outstanding only for year 2012-13 :**

- If the request for reinstatement is received within three months (i.e. on or before 30<sup>th</sup> September) of his/her ceasing to be a member (after 30<sup>th</sup> June), the payment of the annual subscription plus a penalty of 25% thereon,
- If the request for reinstatement is received after three months (i.e after 30<sup>th</sup> September) of his ceasing to be a member, he/she has to pay existing annual subscription, in addition to penalty of 50% of the annual subscription.

**ii) Members whose subscription is outstanding for more than one year:**

Where subscription is in arrears for more than one year, reinstatement subject to approval of Council can be made on payment of subscription for 2 years together with penalty of 50% on the current annual subscription rate and subject to any other conditions that the Council may apply.

**F) Help:** Kindly contact Ms. Prajkata Bhosle at [actsoc@actuariesindia.org](mailto:actsoc@actuariesindia.org) for further details on reinstatement of membership or any other matter relating to annual subscription.



**Gururaj Nayak**  
Administrative Officer

## FROM THE DESK OF CHAIRPERSON - ADVISORY GROUP ON RESEARCH AND PUBLICATION

Tania Chakrabarti

Tania.Chakrabarti@royalsundaram.in



THE DESK OF

FROM

### RESEARCH TEAM ON BOARD

In continuation of my column in November 2011 issue, explaining strategic initiatives taken up by the AGRP to set up an institutionalized research process with IAI, I am happy to announce that Vinod has joined as Head-Research. Other members of the team are expected to join in the coming 2-3 months. The delay in boarding the team might shift the original plans for few months; however, we will apply momentum to see that the delay in the schedules will get minimized.

One of the main shortcomings which we might have noticed for the Indian actuarial profession after more than four decades of existence of public insurance system and a decade of combined existence of public and private insurance market is that, we are yet to reach to a level to measure self sufficient parameters reflecting our common market. As a responsible profession to the financial needs of the market, we rarely looked back to understand the wider implication of our professional knowledge. This reminds us again and again that, we might be lacking our precision and understanding for calculation and evaluation of important estimates in the ever changing market

experiences. One of the solutions to resolve this major issue might be creating a common platform for pooling and sharing of all expertise and experiences earned by our professionals on a regular, short term and long term basis.

Research team would play a centre role for meeting such challenges of the profession in respect of research and investigation by understanding common needs of the insurance market as a whole. The platform set in by the team would enable the profession to take up common subjects of interest to the centre stage for investigation and research which would in turn open up a window for all of us to express and immensely contribute to the industry and to the profession. This could also be viewed as a primary responsibility of any member of the actuarial community.

Our Research team is in touch with different Advisory groups to list out proposals from them and to proceed with announcement of short-term and long-term projects. This will hopefully open up a new window to all research oriented community, particularly associated with the IAI and insurance industry to express their ideas and solutions. On the other hand, MMIC will compliment with

investigations exclusively on mortality and morbidity. More than encouraging and facilitating research work relating to subjects of common interest, the research team will also consider:

- Information dissemination to all stakeholders.
- Integration with other professional bodies, both domestic and international for sharing information on a regular basis.
- Undertake research activities in collaboration with international professional bodies
- Developing the research team as a single window to all research related needs of the market.

The need of the hour is to understand what we missed during our years of existence as the responsible profession to the society and how best we can recover. Every member of the Indian actuarial community needs to realize and rise to the occasion to fulfill their responsibility by their qualitative and constructive involvement in the projects to be taken up by the team.

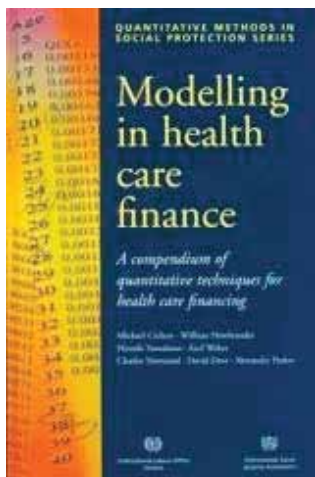
We all look forward to all of your support, together let's make take the research initiative forward.



#### If you have a positive attitude:

1. You always expect to succeed.
2. You always have motivation to do things that can be not very pleasant and interesting.
3. You easily find causes to be inspired to do things.
4. You look at bad things and see them as opportunities, not as problems.
5. You believe that after a failure you will definitely succeed.
6. You do not lose your heart after several unsuccessful attempts.
7. You believe yourself. (Yes, we can)
8. You always see solutions, not problems.
9. You do not lose self confidence even if you find out yourself in embarrassing situations.
10. You look at other people positively.

source: <http://thought-fortheday.blogspot.in/2011/02/positive-attitude.html>



## MODELLING IN HEALTH CARE FINANCE – A COMPENDIUM OF QUANTITATIVE TECHNIQUES FOR HEALTH CARE FINANCING

**By Michael Cichon, William Newbrander, Hiroshi Yamabana,  
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The book “Modelling in health care finance” is published by International Labour Office, Geneva and International Social Security Association.

Modelling in health care finance is very important subject, since, if used properly it can prove to be an effective tool in the hands of the decision makers to allocate scarce resources at national level in the most optimal way. The book provides material to both types of reads, technical (actuaries, statistician and practitioners of health economics) as well as non-technical who may be interested to understand the modelling in health care finance from a very high level. The main focus of the book is at issues related to health care financing at macro level.

The book has 376 pages and is divided in 9 chapters.

Chapter 1 contains introduction, background, objectives and structure of the book. It identifies readers of the book as health care professionals, policy makers and decision maker in the public and private sector. Although readers are not supposed to be expert in mathematics, some basic level of competence in mathematics will be helpful to assimilate the concepts in a better way.

Chapter 2 describes different types of model - economic models, actuarial models and financial models. The relevant models for this book are the financial models for health care sector. It also describes important steps in health policy design and modelling process, i. e., formulating a health policy goal, modelling the status quo, identifying specific policy options, modelling the policy options, analyzing the results of the modelling exercise and, finally, implementing the chosen policy option.

It also emphasizes the importance of refining models and keeping them up-to-date based on latest available data.

Chapter 3 talks about the various health care financing systems in place, viz., public health service system financed by taxes, social insurance schemes, individual out of pocket financing, employer financing, voluntary private insurance, mandatory private insurance, saving schemes, etc. Share of financing by each measure in OECD countries is also given. Understanding the structure of health care financing system in any country is critical to modelling process.

Chapter 4 discusses the various databases that can be put to use in developing health care models. Modeller can extract necessary information from Health Accounting & Health Statistics frameworks. It also provides techniques for handling missing, incomplete or inaccurate data. It suggests two measures to examine data – Plausibility and Reliability. Plausibility means figures should be realistic in relation to the data from previous years or from other countries or schemes. Reliability is doubtful if source of data is either unclear or questionable, e. g., information is derived from a small or biased sample. Finally, modelling of financial system should not be a one-off event rather it should be permanent tool for financial governance.

Chapter 5 details out the actual process of building a model. It contains six steps of the modelling process, namely, determining the scope of the model, defining the logical structure of the model, establishing the data framework and legal description, mapping the model mathematically, calibrating the model and performing sensitivity testing. These

steps of modelling exercise need to be interactive and iterative. It also gives the six ground rules of modelling philosophy. For example, it states that projection should be made for a medium-term period (4 to 5 years) and observation period should be at least twice as long as the projection period. It also covers basic model design of a typical social insurance health care scheme.

Chapter 6 is quantitative in nature and provides calculation techniques in modelling. It demonstrates techniques to project population, forecast increase in demand for health care services, estimate income and expenditure of national health care system, etc. This chapter also illustrates the use of stochastic techniques for modelling.

Chapter 7 gives examples of 9 different models of health care financing. The areas covered are very realistic and give fair perspective to the readers of modelling in practical life.

Chapter 8 describes the application of models. It puts the quantitative modelling in proper perspective by illustrating what in can and cannot be used for.

In Chapter 9 authors have given conclusion and touched upon a few key issues in modelling.

Towards the end of the book authors have given Issue briefs covering topics like concept of health economics, financial management and accounting for health schemes, overview of premium and reserve calculation of private health insurance and regression analysis.

It also gives the basic health statistics of various countries and detailed profile of 10 major countries.

The book is a very good reference for someone who wants to understand the quantitative aspects of health care financing. It can be useful for people who are involved in policy design for health care and are serving as the decision making authority as well as for those who are in the role to advise them.





# Stochastic Modeling

Theory and Reality from an Actuarial Perspective

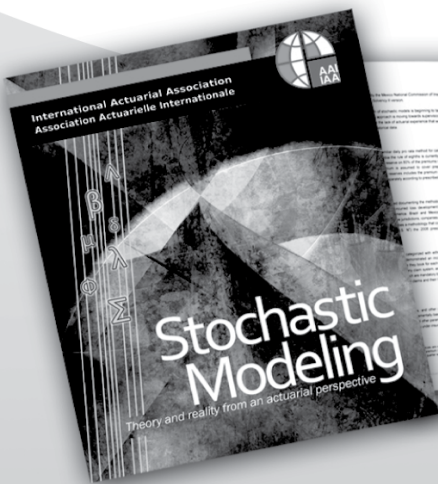
A guide for practitioners interested in understanding this important emerging field, *Stochastic Modeling — Theory and Reality from an Actuarial Perspective* presents the mathematical and statistical framework necessary to develop stochastic models in any setting (insurance or otherwise).

## You will find:

**Techniques** – such as Monte Carlo simulation and lattice models – commonly used in various applications of stochastic modeling.

**Practical considerations** of stochastic modeling, including model calibration and validation.

**Model review and communication** of results, of interest to senior practitioners already familiar with the fundamentals of stochastic modeling.



**Risk metrics** that have applications in stochastic modeling, such as Value at Risk (VaR) and Conditional Tail Expectation (CTE).

**Stochastic scenario generation** for key risk factors affecting life insurance products, including interest rates, credit defaults, exchange rates,


**Case studies** of life and non-life insurance companies, covering a range of topics relevant to capital and surplus modeling of life and non-life insurance companies, including Economic Capital calculations, stochastic reserve and capital calculations, embedded value

analyses, and stochastic product pricing and risk management. Taken together, these case studies cover most of the widely-used insurance applications of stochastic modeling to date, and provide an illustrative framework from which future applications can be developed.

*“This book gives actuaries state-of-the-art tools to characterize degrees of risks in ways that significantly reduce the shadow of uncertainty over the analysis of strategic policy options.”*

Yves Guérard, former Secretary General

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To see whether a risk poses a threat,  
don't we have to see the big picture?

The future is like an iceberg. Most of the time what we can see before our eyes is only half the story. So how do we know the unknowable? Only those with relentless drive, expertise and foresight can see the whole picture — the risk that lies beyond. At Munich Re, seeing more is what we do. We work in interdisciplinary teams, each pair of eyes viewing something from a different perspective, all focusing on the best solution. With our worldwide network we can pinpoint complex global patterns when they arise. When it comes to grasping our future, we are never satisfied with half the story.

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